IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF UTAH

CENTRAL DIVISION

In re:	)	
	)	
KEITH JONSSON, an individual; MICHAEL JONSSON, an individual; CEDAR VALLEY FUR FARM, LLC, a Utah limited liability company,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	Case No. 2:11-CV-140BSJ
	)	
NATIONAL FEEDS, INC., an Ohio corporation, RANGEN, INC., an Idaho corporation,	)	
	)	
Defendants.	)	
	)	

BEFORE THE HONORABLE BRUCE S. JENKINS

January 15, 2014

Jury Trial

Laura W. Robinson, RPR, FCRR, CSR, CP
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I N D E X

Salt Lake City, Utah, January 15, 2014

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THE COURT: Good morning, and it looks like we're all here and Dr. Hall. Should we bring in the jury?

MR. MITCHELL: Before we do that, Your Honor, today I expect we're going to have to take up the issue that we raised yesterday about Exhibit 14, not necessarily right now but with a later witness, and I have got a brief I would like to submit to the court at this point.

THE COURT: That would be fine.

MR. HANCEY: We're ready to proceed with Dr. Hall, Your Honor.

THE COURT: Okay, fine. Bring in your jury.

(Whereupon, the jury returned to the courtroom.)

THE COURT: Good morning again, ladies and gentlemen. Sit down and relax. And we'll note for the record that the jury is present and counsel and the parties. And counselor, you may proceed.

MR. HANCEY: Thank you, Your Honor.

Q. (By Mr. Hancey) Dr. Hall, I just have a few questions for you this morning. Now you're aware of the fact that the Jonssons did not observe any of their mink in 2010 vomiting, having diarrhea, or distended stomachs; is that correct?

A. That is correct.

Q. Does that alter your scientific opinions in this case in any way?

A. No, it does not.

Q. Why not?

A. The amount of histamines that one would expect to produce severe vomiting or diarrhea were not present in this case. There were enough histamines present at least with worst-case scenario to where you would expect to see very mild effects of a slightly decreased feed intake and potentially a slight loosening of the stool that in some cases wouldn't even be noticeable.

Q. Now yesterday, Dr. Hall, you indicated that it is important to calculate the nitrosamine exposure to the Jonssons' mink on a dry-matter basis. Do you remember that testimony?

A. Yes, sir.

Q. Mr. Mitchell was insisting on asking you questions that had you calculating exposure on a wet feed basis despite what you were telling him. Why do you believe it is important to calculate nitrosamine exposure on a dry-matter basis?

A. In this particular case when you're comparing between studies you need to compare in equal terms. The predominate effects that was observed in the mink eating nitrosamine contaminated feed in this case -- in this

case the predominate clinical effects that we observed, that were observed in the Jonssons' mink associated with the nitrosamine contaminated feed was associated with reproductive effects, loss of kits due to stillborn fetuses and deaths in the kits at a young age. And in the studies that were comparable, one needed to be able to calculate the exposure rate to do a direct comparison on a dry-matter basis.

Q. Have you calculated what the nitrosamine exposure was to the Jonssons' mink on a dry-matter basis?

A. Yes, sir, I have.

Q. And what is your calculation, sir?

A. The calculation was that the concentration of the feed being fed at the time using the 0.22 parts per million nitrosamine in the crumlets would have been 0.07 milligrams per kilogram.

Q. How does that exposure, Dr. Hall, compare to the study you referenced yesterday concerning nitrosamine exposure to pregnant mice?

A. Um, in one of the studies the exposure in pregnant mice was 0.01 which means it was seven times higher.

Q. In this case?

A. In this case.

Q. You testified yesterday that the lactation

crumlets contained three different types of nitrosamines; is that correct?

A. That is correct.

Q. As well as histamines; is that correct?

A. That is correct.

Q. Okay. What significance, in your mind, does the presence of those four substances in the lactation crumlets collectively have to the case?

A. Well, in most scientific studies the way that researchers look at compounds is they look at individual compounds. It is very rare that you see them look at multiple compounds unless there is specific interactions that are thought to occur. When each of the nitrosamines are metabolized, or all of them that have been studied that I'm aware of are metabolized by the same enzymes so any time you dose multiple nitrosamines, then you have multiple compounds competing for the same enzymes of metabolism. When that happens, you can see additive effects or synergistic effects to where having multiple nitrosamines in the system at the same time may make one or all of them slightly more toxic just because it decreases the animal's ability to get them out of the system.

Q. Dr. Hall, you were asked yesterday by opposing counsel how you would feel if you learned that the Jonssons had a good production year in 2010. Do you remember that

testimony?

A. Yes, sir.

Q. Okay. If you learned that the Jonssons actually expected to produce 45,000 kits in 2010 and only produced 36,000 kits, what bearing would that have on your scientific opinion in this case?

A. Actually, that fits with my scientific opinion in that the nitrosamines would expect to result in an increased number of stillbirth, increased number of neonatal mortalities, to where you would actually wean less kits per mother than you would have expected otherwise.

Q. Now, Mr. Mitchell asked you some questions yesterday about something he referenced as the Koppang Study. That was the study that was in the book that he kept handing you and then taking back so you couldn't read it. Do you remember that article?

A. Yes, sir.

Q. Okay. Have you had a chance to read that article in its entirety?

A. Yes, sir.

Q. Okay. Can you briefly explain for the jury what that article says that you think is relevant to this case?

A. Okay. A little bit of background on the article. The researcher for that article actually was doing research specifically aimed at cancer. So they designed the studies

with specific aims to actually look at the potential for cancer. It was a three-fold study, a three-year study. The first year they just looked at exposure rate and various concentrations for a period of, I believe, 122 days, and then a portion of the mink were sacrificed at this time and they looked for effects. A small number of animals, 20 to be exact, were kept out of that initial group, 6 males, 14 females. Those animals were then bred. They were continued on the nitrosamines through the breeding cycle, through gestation, and then as the mothers had the kits and raised the kits.

In this particular study, although the goal and the aim was not designed to look at reproduction so there were many factors that were not accounted for in the study, they did note that the mothers, those 14 mothers or females that were bred, only had 44 kits total.

Q. What does that average kit per litter?

A. That is 3.1 kits per litter.

Q. How does that compare to industry standards?

A. Um, between 50 and 60 percent of what one would expect.

Q. Okay. Continue.

A. Um, but the thing that they also noted was that they had an extremely high perinatal mortality in the kits and they ended up only weaning, I'm trying to remember the

exact number, 30, I believe it was 30 kits total out of 16 mothers which actually works out to be a 2.1 kit per mother average. Which means a third of the animals that were born died before weaning.

Q. Were there any further studies done on the offspring that did survive?

A. Actually, yes. They continued that into the third year. And they took the females that were born to that first generation and they subsequently bred those females. They only had one of all of the females that they retained actually bred and that one that bred only had three kits. And of those three kits, only one of them lived. So they ended up with only one surviving kit out of all of that first generation group.

Q. Do you believe that the findings in the Koppang Study support or detract from your scientific opinions in this case?

A. Even though the study was not specifically designed to look at reproduction, I believe that it highly supports what has been shown with the mice study. That where you see increased perinatal mortality, increased number of stillbirths in mice, and it also supports the fact that in the nitrosamines, as has been shown with other species, you would expect to see the same thing in mink.

Q. Does the study allow you to opine that the

nitrosamines contribute to a high death rate or sorry a high or a low kit per litter count at birth?

A. It would allow you to suggest a lower kit per birth at birth and also a significantly lower number of weaned kits per litter.

Q. In other words, low survivability of the kits that did survive, that were actually born?

A. That were actually born alive, yes, sir.

Q. Now you're aware that there are no necropsy reports for the Jonssons' mink that died during the time of neonatal mortality in 2010; correct?

A. That is correct.

Q. Okay. Say for purposes of argument that the Jonssons did send some of their mink from that time period in for necropsies and there were reports available, would those reports tell you anything about nitrosamines or histamines?

MR. MITCHELL: Objection, calls for speculation.

THE COURT: Sustained.

Q. (By Mr. Hancey) Would a necropsy done immediately after exposure to nitrosamines allow one to determine the cause of death?

MR. MITCHELL: Objection. Lacks foundation and calls for speculation.

THE COURT: Well, he may answer. You're asking him

what a necropsy would show.

Q. (By Mr. Hancey) Correct. Tell us that?

A. And with nitrosamines it would depend upon the dose. At really high doses, you can see some liver changes fairly soon after the dose. At lower doses, you often see no changes immediately after the dose.

Q. Like the doses that were administered in this particular case?

A. In this particular case, the concentration that was identified in the feed I would not expect to see liver necrosis from those doses.

Q. The Jonssons testified that in 2010 about 1,500 of their kits that had survived birth died between June and November. In your opinion, what role did the lactation crumlets play in the deaths of those animals?

A. In the studies that have been done, there have been associations with increased, what are referred to as, neonatal or perinatal mortalities. In the Koppang study, for example, the time from birth to weaning they saw a significant number of animals die. Part of those 1,500 from the time point of June 1st through November would be some of the later animals that had their babies later in May, that were still in that perinatal time period. And there again, if you look at the Koppang study, they talk about weaning their animals at three months of age, so they didn't

delineate in that study exactly when, during that three-month time period, that the deaths occurred.

In mice studies and rat studies, they also describe an increase in perinatal mortality during the time period from birth to weaning. That increase can explain a significant number of that 1,500.

Q. Mr. Mitchell asked you a lot of questions yesterday, Dr. Hall, about calculating toxic substances on a milligram per pound of body weight basis. Do you remember that?

A. Yes, sir.

Q. And did I understand your testimony to be that the most scientifically accurate way to measure toxic substances is, in fact, to use milligrams per kilogram of body weight?

A. That is correct.

Q. Why is that true?

A. That is the way that all of the studies are published. And so in order to be able to compare apples to apples you need the same units. And the units in the publications are milligram per kilogram.

Q. If Mr. Mitchell had done his calculations on the white board yesterday using a milligrams per kilogram method of calculation, would the results have been different?

A. Yes, sir.

Q. In what way?

A. They would have been 2.2 times higher. And so by calculating them on a milligrams per pound basis, it artificially makes the number look smaller.

Q. As a toxicologist having investigated contamination issues in the past, how would you advise a company wanting to avoid nitrite contaminated ingredients in a finished product?

A. The primary recommendation would be that ingredients coming into the facility should be tested prior to their inclusion into a final ration.

Q. In your opinion, would that be part of a normal quality assurance program?

A. If the intent is to produce a feed known to be not contaminated, yes, that would definitely be part of a normal quality control protocol.

Q. Mr. Mitchell asked you a few questions yesterday about a study that involved animals that had been exposed to nitrosamines over a period of 500 days, and then asked you sort of to compare that to the 45 days that the animals in this case were exposed to nitrosamines. Do you remember that line of questioning?

A. Yes, sir.

Q. Okay. How would you evaluate the exposure of nitrosamines over time to the Jonssons' mink in this case?

A. Okay. The exposure across time actually needs to be evaluated based on what parameters that you're looking at. If you were looking at damage to the liver, for example, dose plays a critical role and cumulative effects become important. And so even at lower doses for longer periods of time you can see some liver damage. At high doses for very short periods of time you can see liver damage because there is more of a cumulative effect.

Q. What if you are looking for say cancer which I think you said yesterday is one effect of nitrosamine exposure?

A. I'll refer back to the Koppang Study again. In the 70's, early 70's, which is when that study was actually done, a lot of the cancer research looked at cumulative effects as potential causes of cancer. That is actually not done any more because it is not considered 100 percent scientifically valid. There is what is commonly referred to as a one hit theory which means that you need to have a compound that has the potential to damage the DNA of an animal that can result in cells proliferating or growing without control. That is the definition of cancer. And so it does -- it is not technically a cumulative effect. You can have animals on a low dose that happen to get that one hit that damages the DNA that potentially can cause cancer. That is one of the reasons very large numbers of animals

have to be used for cancer studies. And you can see cancers from short time exposures, and you can also see cancers from long time exposures. One of the reasons they look at long time exposures is because on each individual day you may get that one hit and that one animal that damages the DNA and it just increases your probability of seeing cancer in the group.

Q. Now in this case we're not really talking about liver damage or cancer, are we?

A. No, sir.

Q. We're talking about reproductive effects, correct?

A. That is correct.

Q. Okay. So explain your opinion then on how the duration of exposure to nitrosamines in this case has a bearing on reproductive effects?

A. The duration of exposure when you look at either teratogenic effect or the effect on fetal survival, is more of a relationship to the exposure amount at an individual point in time during that animal's gestation or growth in the uterus, because you can have specific organ systems damaged that may be damaged only on a single day of gestation. And so the feeding of the nitrosamine contaminated feed at that later point of gestation prior to them having the kits it doesn't really matter that we're not

feeding them for 100 days, it matters that the exposure was occurring at that time when the animals were sensitive.

Q. Yesterday you were asked to refer to your deposition on about two occasions and the question that was posed at that time was read to you as followed by your answer. Do you remember those lines of questioning?

A. Yes, sir.

Q. Okay. Can you explain to the jury why you answered the way that you did on those two occasions in your deposition?

A. Can you refer to the page of the deposition, please?

Q. Yes, I can. Okay. The first one is on Page 52, the bottom of Page 52 and top of page 53?

A. Okay. That question line was asking me about the nitrosamines and determining an exact amount of nitrosamines that occurred at the time of the exposure in comparison to the time that the analysis was done. And the way that the questions were worded, I cannot say with a hundred percent certainty what the concentrations were because we don't have tests that were done on the feed at the time it was fed.

However, I can, based on science, and based on what is known about the formulation and the breakdown of nitrosamines, say within a reasonable degree of scientific certainty that the concentrations should have been similar

at the time of testing as they were at the time the feed was delivered and fed.

Q. Very good. Okay. And the other -- the other time you were questioned about something you said in your deposition referred to Page 110. Can you just turn there real fast. Specifically, let's see, line -- lines 10 through 14. Can you just read that for a minute and then explain your answer? You were being asked about histamines here, correct?

A. That is correct.

Q. The question was, are you able to tell us with any certainty what the level of histamines would have been in the feed at the time it was fed to the Jonsson mink. Your answer was no, sir. Why did you answer that way?

A. Because in the way I mentally interpret that question is no, I cannot provide a hundred percent certainty. However --

Q. What can you provide?

A. Based on the science of histamine production, based on science of histamine breakdown, based on the scientific articles that had been described with reference to histamine production and breakdown, I can with a reasonable degree of scientific certainty say that the concentrations should have been higher at the time of feeding than they were at the time of testing.

Q. Now you were cross-examined, Dr. Hall, at length yesterday by both counsel. Did any of the answers that you provided during that cross-examination change or alter your scientific opinions in this case?

A. No, sir, they did not.

Q. And what is your scientific opinions in this case?

A. The scientific opinions in this case is based on the facts that have been presented to me and my evaluation of the overall case and the data are that the crumlets contained toxins that were present, that one of these toxin or a combination of these toxins resulted in adverse health effects in the Jonssons' mink that resulted in increased numbers of neonatal mortalities and health effects in the mink which caused mink deaths.

MR. HANCEY: Thank you very much, sir. That is all that I have.

THE COURT: Counsel?

RECROSS-EXAMINATION

BY MR. MINNOCK:

Q. All right. Good morning, Dr. Hall.

A. Good morning.

Q. So yesterday we finished with our cross-examination of you at approximately 5:00, right?

A. That is correct.

Q. And then after the completion of the cross-examination, you spent several hours with Mr. Hancey and Mr. Mercer reviewing your testimony, correct?

A. Yes, sir.

Q. At his office?

A. No, sir.

Q. Well or somewhere?

A. Yes, sir.

Q. Okay. And so the three of you sat down for a few hours to prepare your testimony for this morning, correct?

A. Actually not to prepare my testimony for this morning, no, sir. We sat down and discussed some of the things that were stated in the courtroom.

Q. All right. So let's talk about a few of those things. First of all, let's talk about the Koppang article. Now, the Koppang article was actually an article you relied upon in your original report, right?

A. It was one that was referenced in a number of the scientific summary articles that I used, yes, sir.

Q. And you had the abstract?

A. Yes, sir.

Q. But you never actually pulled the complete article?

A. The article was unavailable to pull completely. It is no longer in print.

Q. All right. Well, Mr. Mitchell was able to get a copy, correct?

A. He managed to get a copy of the book. I tried and was not able to.

Q. All right. So you said that one of the things that you learned yesterday was that the Jonssons expected to have 45,000 mink and they only got 36,000 mink, right?

A. That was stated yesterday.

Q. But there was no documentation shown to you as to why they had that expectation, right?

A. No, sir.

Q. That was simply a representation made to you?

A. That is correct.

Q. Now you remember yesterday I asked you the question of when we were talking about your control that the only mink that we know definitively that ate the lactation crumlets were the black mink, right?

A. The mink at the Lehi Ranch.

Q. Yes. Well, let me state it to you this way. If you have a particular mahogany mink, you don't know whether that particular mink ate the lactation crumlets because half were at Lehi and half were at Cedar Valley, right?

A. Well you know the ones at Lehi did and the ones at Cedar Valley didn't.

Q. But the ones at -- the mahoganies you can't break

out amongst mahoganies which ones ate the crumlets and which ones did not because you don't know which ranch they were at, right?

A. As far as production no, you can't.

Q. So the only production numbers that we know ate the lactation crumlets would be the production numbers for the blacks because we know for a fact they all ate the lactation crumlets, right?

A. That can be assumed, yes, sir.

Q. Okay. Now, you never reviewed the report of Dr. Wade Roberts?

A. I do not believe I have ever seen a report of Dr. Roberts, no, sir.

Q. Okay. Could I impose on you to come down for a minute. Your Honor, may he come down?

THE COURT: Oh, sure.

MR. MINNOCK: May I impose on you --

THE COURT: He says he hasn't seen the Roberts report so --

MR. MINNOCK: Well, I'm going to ask him based on this data whether it affects his opinion.

THE COURT: Well, I suppose you can talk to Dr. Roberts about that data, but if you're assuming different data than what he has used, you know --

Q. (By Mr. Minnock) You haven't made any

assumptions with respect to the production of blacks, right?

A. No, sir.

Q. Okay. Well, here is my question. If you look at the data that Dr. Roberts concluded, okay, which is that for the past seven years they had 4.79 mink, 3.9 mink, 4.9 and this is blacks, so kits per litter for blacks, all right? 4.79, 3.9, 4.5, 3.2, 3.21, 2.62, and 2.75 that is the seven years prior to this -- to this -- to eating lactation crumlets, right?

MR. HANCEY: Objection foundation and speculation. He is not familiar with this data.

THE COURT: I'm going to sustain the objection.

Q. (By Mr. Minnock) All right. Well let me ask you this question. You would expect that the lactation crumlets -- after the lactation crumlets, you would expect the black mink that you know ate the lactation crumlets to have a reduced kits per liter compared to prior years?

A. Yes, sir.

Q. Okay. And so if they in fact had an increase, then that would call into question whether or not these neonatal losses actually took place?

A. You would have to factor in a few other factors on the age of the blacks in previous years versus current years because age does affect the number of kits per litter. Other factors that come into play but yes, that that is a

factor that would need to be evaluated.

Q. Right. And neither you or -- you can resume your seat. Neither you nor Dr. Roberts -- well not -- I shouldn't ask you about Dr. Roberts. You have not evaluated that?

A. That is correct, sir.

Q. You have not evaluated and compared their actual production to determine whether or not it was consistent with the opinions that you were rendering?

A. That is correct.

Q. Okay. Finally, as I understand it yesterday when we talked about this your testimony as I recall was that you believe that the neonatal losses could have been caused by this toxin?

A. Yes, sir.

Q. Okay. But that anything after that time period you cannot say would be caused by this?

A. The neonatal and time up to weaning is what most of the reports that refer to the neonatal so you have to be careful in what you refer to as neonatal. What I'm talking about is the time from birth to weaning.

Q. Birth to weaning you believe that the toxins had an effect on them?

A. Yes, sir.

Q. After that, the levels are too low to have an

effect at least based on the data?

A. We do not have any indication. At low doses you can occasionally still see cancers but we don't have any data to say one way or the other for that.

Q. From your opinion we're only talking about birth to whelping -- birth to weaning?

A. That is correct.

MR. MINNOCK: All right. Thank you, sir. That is all of the questions I have for you.

RECROSS-EXAMINATION

BY MR. MITCHELL:

Q. Dr. Hall, as I understand your testimony today, you have calculated the dry-matter basis of the I assume it is the NDMA or is it the total nitrosamines in the feed?

A. It is just the NDMA.

Q. Okay. So the nitroso dimethyl amine you have calculated on a dry-matter basis at a concentration of .07 milligrams per kilogram of feed?

A. Of dry-matter feed, correct.

Q. Okay. So that doesn't tell us what the exposure rate for the mink were, does it?

A. No, it does not.

Q. Okay. Have you calculated the exposure rate for the mink assuming that the concentration of .07 milligrams per kilogram?

A. I did not because I was comparing directly back to articles where I was comparing directly to exposure rates. So when you calculated it I calculated exposure rate so I could do a direct comparison exposure rate to exposure rate.

Q. Except you just told me you haven't calculated exposure rate, you calculated concentration?

A. Exposure rate is the concentration in the feed. I didn't -- I didn't calculate dose. You're asking me a question about something -- exposure rate is the amount in the feed being fed to the animals. Dose is a different calculation.

Q. Okay. So but if we're really going to compare apples to apples, because say for example a mouse consumes a whole lot less than a mink does, we really want to compare milligrams per kilogram of body weight consumed or the dose consumed, correct?

A. Not necessarily.

Q. Have you actually gone through and done that calculation?

A. No, I did not.

Q. Okay. Now, if we go through -- how would we go through and do the calculation to calculate the dose that these mink would have consumed at .07 milligrams per kilogram of concentration levels?

A. You would take the concentration in the feed at 0.07, you would then multiply that by the amount of feed fed to the animals based on body weight. And typically you're going to get about 8 to 9 percent of their body weight per day ingested in dry-matter intake. Then you would take that number of milligrams and divide it by the animal's body weight and give you milligrams per kilogram per day.

Q. Okay. You have had a chance to look at the Koppang article now for a second time because you read through it as you were sitting up there yesterday, correct?

A. I read through a paragraph or two on the specific questions you were asking me.

Q. Okay. And you have actually had a chance to look through the whole article now?

A. That is correct.

Q. Okay. Did you happen to bring a copy of it with you today?

A. I did not.

Q. Okay. So I have got the same one that we used yesterday so we can use it at your convenience. Any time you want to look at it, feel free.

A. Okay.

Q. Okay. So let's start by looking back at table two that we were looking at yesterday.

A. Okay.

Q. As I recall, in table two they have two figures that we're looking at. One is the concentration levels in the fish meal that were fed -- that was fed to the mink, is that how you read this?

A. Yes, sir.

Q. Okay. And then we have the dose, the daily dose that the mink consumed per day?

A. That is correct.

Q. Okay. Now, the concentration in the fish meal is not going to provide us with a direct correlation to the concentration in the feed in this case, will it? In other words, we can't compare the concentration levels in that study in the fish meal to the concentration levels in the feed in this case because each one gets diluted, it gets mixed into additional feed?

A. Right, it is diluted at different rates.

Q. We don't know -- we don't know what those rates are in the study so we can't do an apples to apples comparison?

A. Actually, in the study they said they incorporated it at 10 percent. That is actually written in the study.

Q. They incorporated it in at 10 percent but we don't know if things --

THE COURT: Slow down. Laura is a very quiet person

but I have seen her on occasion stare down attorneys. So relax, take your time, put your question.

MR. MITCHELL: I would tell you to kick me under the table if you could but --

THE COURT: Ask your question.

Q. (By Mr. Mitchell) My legs might reach but -- so my question is, we can't do -- we don't have all of the information that we would need to do an apples to apples comparison of the concentrations in the finished ration that was fed to each of the animals, we need a little more information?

A. That is correct.

Q. Okay. But what we can do is an apples to apples comparison of the -- of the doses that these animals were exposed to?

A. That is correct.

Q. Okay. Because we can go through and do that dry-matter calculation. So let's do that. Walk me through how you would do the math for the dry-matter calculation in this case assuming a .07 milligrams per kilogram concentration.

A. Okay. The first thing you would do is multiply that by the amount of feed being fed.

Q. Okay.

A. And I was told that the mink in that late

gestation, early lactation, were fed approximately half a pound of feed per animal.

Q. So we're going to multiply that --

A. Okay. You have to take that 0.5 pounds, divided by 2.2 to put it into kilograms.

Q. Let me grab my handy calculator. So if you would divide .5 by 2.2, what does that give us?

A. 0.23.

Q. .23?

A. Correct.

Q. So we have .23 kilograms of feed?

A. No, it -- that is correct.

Q. Okay. So what is the next calculation that we have to do?

A. Then you multiply that .23 kilograms of feed times 0.7 milligrams per kilogram of feed.

Q. What does that give us?

A. 0.16.

Q. .16?

A. 0.16. Scientifically you always put a zero in front of the point that way you maintain accuracy. 0.0 -- 0.016.

Q. I thought there was a zero missing. That didn't look quite right to me. 0.016?

A. Milligrams.

Q. Milligrams per kilogram?
A. No, no, no just milligrams.
Q. Just milligrams, okay.
A. The kilograms go away.
Q. Well, milligrams per kilogram of body weight?
A. No, we're not there yet.
Q. We're not there yet.
A. That is the total number of milligrams ingested.
Q. Okay.
A. Then you divide it by the animal's body weight.
Q. So what are we going to assume for the animal's body weight in this case?
A. I was told that those females were approximately one and a half kilograms.
Q. Okay. So we divide .016 by 1.5?
A. Yes.
Q. What does that give us?
A. 0.01 milligrams per kilogram of body weight per day and that is the amount that they received each day.
Q. 0.01 milligrams per kilogram of body weight per day?
A. That is correct.
Q. Okay. Now let's look at -- let's turn back to the Koppang study for a second.
A. Okay.

Q. And you remember there were four groups of -- four initial groups of mink that were studied in the Koppang Study?

A. That is correct.

Q. Okay. And were there groups that had levels of exposure, i.e., and when I say level of exposure I mean dose, that received daily doses in excess of 0.01 milligrams per kilogram of body weight per day?

A. Yes, sir, there were.

Q. And which groups received higher doses than that level?

A. All of them.

Q. Okay. And as I recall, there were three groups that did not show any pathoanatomical changes after they were pelted at 122 days?

A. That is correct.

Q. Okay. And of those three groups, what is the highest dose that those animals received or highest rate of nitrosamines NDNA that those animals received for those 122 days?

A. Of the -- in all four studies.

Q. Of the three groups that did not show any pathoanatomical changes?

A. Okay, it is actually you were right in the first way you described it, it is the dose not the rate.

Q. Right.

A. So the highest dose where they did not show any pathologic lesions in the liver because on that study the only thing they were looking at was liver lesions was 0.08.

Q. Okay. And so that we get through that for 122 days no changes at least that they were -- of the changes that they were looking for, none were seen in those animals after 122 days at eight times the dose that these animals were receiving?

A. That is correct.

Q. Okay. And then we have the fourth group where there were some changes seen?

A. That is correct.

Q. Okay. And what were those changes that were seen?

A. Um, damage to the liver.

Q. What was the damage to the liver? I believe, correct me if I'm wrong, but I believe it was some partially occluded veins?

A. Right. There was some damage to the vein drainage in the liver. Typically that is associated with damage to the liver cells themselves which causes occlusion of the veins.

Q. Okay. What was the lowest dose at which those changes were seen in this study?

A. In this study 0.13.

Q. So 13 times higher than the dose that the animals in this case received?

A. That is correct.

Q. And none of those animals in any of those four groups died until they were actually killed and pelted out?

A. That is correct.

Q. Okay. So we get through that looking at that stuff. And then you started talking about the second generation of and third generations within this study?

A. That is correct.

Q. They reserved a few of the animals from the collective four groups and continued on studying the effects of the NDMA in their system?

A. That is correct.

Q. And as they did that, what was the dose that these animals were receiving as they continued on?

A. It will take me just a moment to find that. Actually, I don't show that they ever calculated that. The only thing they calculated in that was the total dose over the entire duration of the animals being fed.

Q. Doesn't the study indicate that those animals that continued on continued -- were actually fed at the highest rate from the first group that was studied?

A. It indicates, based on this, that they were dosed

or had a feed inclusion rate similar or maybe slightly higher than that initial high dose group.

Q. Okay. So they were -- they were at least at the dose, the lowest dose where we saw those anatomical changes of .31 milligrams per kilogram of body weight per day?

A. No, sir. 0.13 not three-one.

Q. If I said three-one I meant .13?

A. That is correct.

Q. Yes. Okay. So -- and how many -- when did -- when in relation to the reproduction process did they begin the second portion of this study?

A. In the second portion of the study they started the second portion of the study at that 122 days after they initiated the first part of the study.

Q. Okay. So they went straight from concluding the first portion straight into the second portion?

A. That is the way it reads, yes, sir.

Q. Okay. And can you tell from that study how far into the reproduction cycle those animals were at that 122 day mark?

A. Okay. They started the initial study in July of 1970. They actually bred the mink in February.

Q. Okay. So --

A. So you're looking at seven -- between six and seven months from the time they initially started on the

first study before they were bred.

Q. Before they were bred. And if we count roughly four months, 122 days, we go -- we start in July, August, September, October, November, and they were bred in February?

A. Right.

Q. So we have an additional three months where after they have completed the first session where they continued to receive those high doses of NDMA and then they're bred and they continue to receive those high doses all the way through the whelping process?

A. I don't refer to .13 as high doses, but that was the highest dose that they used in the first study.

Q. Well, that was the lowest dose at which we saw any changes. It wasn't the highest dose that they used?

A. Right. It was the lowest dose they saw any liver associated pathology, yes, sir.

Q. Right. And that was the rate that they fed these mink for roughly three-quarters of a year before they actually tried to breed them?

A. That is correct.

Q. And then they continued feeding them at that rate all the way through gestation, all the way through whelping?

A. That is correct.

Q. And as compared to initiate -- in this case,

initiating the exposure right in the middle of whelping, correct?

A. That is correct, yes, sir.

Q. Okay. You mentioned a study in mice that showed some reproductive issues at a -- was it a concentration or was it a dose of .01 milligrams per kilogram?

A. It was a concentration.

Q. Okay. So a concentration of .01 milligrams per kilogram. What was the name of that article?

A. That was written by Anderson, Al Anderson.

Q. Was it *The Effects of Imipramine, Nitrite and Dimethylnitrosamine on Reproduction in Mice*?

A. No.

Q. It was the other article that was actually a cancer study, wasn't it?

A. That is correct.

Q. Okay. And as I recall from your testimony yesterday, it was a cancer study kind of actually similar to what they were looking at in Koppang, but also the reproductive effect that you were talking about was lung tumors showing up in -- is it pups, are mice pups?

A. Yes, sir.

Q. In pups after they have been whelped?

A. That is correct.

Q. Okay. If that is the effect that -- the

reproductive effect or what you're calling the reproductive effect, we're not talking about mortality, stillbirths, dead kits, that kind of a thing, we're talking about tumors showing up after these kits are born?

A. Actually, there were two different Anderson studies. In one of them the exposure rate was at 0.01.

Q. That is cancer study?

A. That is the cancer study and they did see adverse health effects in the kits. That was associated with cancer. There was another one where the exposure rate was 0.1 and in that study is the study where they saw the increased neonatal mortality in stillbirth in the pups.

Q. Okay. And so what we were seeing actually in the second study that you just referenced is a higher concentration than what we have in this case, and then there were actually two groups that were studied in that second article in that second Anderson article. That is the one that I referenced first, the *Effects of Imipramine Nitrite and Dimethylnitrosamine on Reproduction in Mice*?

A. That is correct.

Q. And there were two groups that were studied in that study, correct?

A. That is correct.

Q. Okay. And in the first group, they studied the effects of imipramine?

A. Yes, sir.

Q. And the effects of nitrite?

A. Yes, sir.

Q. And the effects of imipramine plus nitrite?

A. Yes, sir.

Q. And the effects of dimethylnitrosamine?

A. That is correct.

Q. And in that first group, if we're looking at dimethylnitrosamine, there were no reproductive effects?

A. Actually, that can't be stated. They did not see a significant -- statistically significant effect. But if you look at the total number of pups, there was a depression in the number of pups born. The reason they went to the second phase in that study was they increased the number of mothers. Oftentimes, with reproductive studies when you are looking at a mother that has multiple offspring you have to have a high enough number of animals to where you can show a statistical comparison. The reason they went to the second phase in that study was because they did see that decreased number in the first study.

Q. And what we're seeing is that -- what they indicated was that in that first group there wasn't a statistical -- statistically significant difference between the NDMA group and the control group that didn't receive NDMA?

A. That is correct.

Q. Okay. And that can be -- would you say that that is somewhat analogous to the fact that any production entity like a livestock production entity is going to have a normal death rate within its herd?

A. Actually, I would not say that based on that study, no, sir.

Q. No, I'm not saying based on that study. I'm just saying is that something that is -- would that be a comparable analogy?

A. In any production environment you have what would be considered a normal death rate. But that -- that does not compare to that study in any way, shape or form.

Q. Okay. Okay, no I wasn't really trying to compare them to the study, I was just trying to get my arms around it. Um, okay, so let's look at the -- then the second group and um, in the second study that they looked at they weren't looking solely at stillborn kits, they were looking at a number of factor neonatal criteria, for lack of a better word?

A. They actually designed the study much more stringently to where they actually went in and counted the number of pups born. They did a much more thorough examination. I -- to give the jury an understanding, when you have a mouse colony, for example, and I sat on the

institutional animal care and use committee for the university so I deal with this issue. Typically, when pups are born you want to leave them alone because sometimes disturbing the pups can actually cause the mothers to kill the pups.

So in that first study, the way they described it, they may not have seen a true incidence of stillbirths, they may not have seen how many pups were born versus how many survived because in mice a dead pup is often cannibalized by the mother likely as a natural instinct to where in the wild they would not want that dead pup to be around to attract predators.

Q. Okay. Dr. Hall, let me focus you a little bit more about what I'm looking at in this -- in this second portion of the study. They looked at the number of days from conception to birth?

A. That is correct.

Q. And the NDMA group was -- there was no statistically significant difference in that aspect of the reproductive cycle?

A. That is correct.

Q. They also looked at the number of births after 30 days and there was no statistically significant difference between the NDMA group and the control group for that criteria, correct?

A. The number of births after 30 days?

Q. Number of births after 30 days?

A. I have no idea what you're talking about. I don't recollect that in that paper.

Q. Okay. I'm happy to show that to you if you would like to see it.

A. I would be glad to see it.

Q. Sure. And I will come around here so I can kind of lean into your mike. So this is the second portion of that study. I'm happy to grab the whole thing if you want to look at it, but just for ease of convenience, would you agree with me that this is the table that summarizes the findings in the second portion of that study, that being the Anderson study on the effects?

A. Yes, sir.

Q. Okay. And so we see here that they looked at the number of births after 30 days and with no statistical significant difference -- statistically different significance between the NDMA group and the control group?

A. Correct.

Q. Okay.

A. Well, to -- where everybody understands what this -- the number of births after 30 days the reason that parameter was measured was to try to determine how many animals did not breed the first time and it took them longer

to breed.

Q. Okay. The next criteria that they looked at was the total number of pups that were born. And in the NDMA group, it actually exceeded the control group by three pups 185 to 182, correct?

A. Yeah, average 9.5 and 9.1.

Q. Okay. And then we get down to the total dead and that is where we start to see some statistically significant differences between the NDMA group and the control group and that is what you have already talked about, correct?

A. Correct.

Q. Okay. And so then we get down to the litters with 100 percent dead and the litters with some dead and do we see a statistically significant difference between the control group and the NDMA group?

A. No, sir, there was 11 verses 8. So it was 55 percent in the NDMA group and 40 percent in the other group had at least one pup that did not survive.

Q. Okay. So then in the second portion of this study there were five groups of criteria that the study looked at and in only one of those five did we see a statistically significant variance between the NDMA group and the control group?

A. That is correct. That is in the number of stillbirths and the number that did not survive to weaning.

MR. MITCHELL: Okay. Those are all of my questions. Thank you.

THE COURT: Are you through with him?

MR. HANCEY: I might have one more question, Your Honor.

THE COURT: Okay. One.

FURTHER DIRECT EXAMINATION

BY MR. HANCEY:

Q. I'll even stick to my promise on that.

Dr. Hall, you were just crossed at length by Mr. Mitchell and you were asked about a bunch of specific questions that were framed in a particular way. Is there anything that you felt like could have assisted the jury in --

THE COURT: He is not an expert in what is assisting the jury. Put your question.

Q. (By Mr. Hancey) Could you -- can you provide any more explanation that you weren't given an opportunity to provide on cross as to anything that was asked of you?

MR. MITCHELL: Objection. That is way too broad.

THE COURT: Yeah, he responded to the questions put. I don't know that that is helpful to us.

MR. HANCEY: Then let me ask one more specifically.

THE COURT: I thought we were dealing with one.

MR. HANCEY: That one didn't work out, did it. No, I

don't have any other questions, Your Honor. I'll stick with my one.

THE COURT: Thank you, sir. Appreciate your help. And your next witness?

MR. MERCER: Your Honor, plaintiffs call Joy Kinyon.

THE COURT: Sir, if you will come forward and be sworn, please.

MR. MITCHELL: Your Honor, before we get going, I think this might be an appropriate time to bring up that issue that we were going to need to address outside of the presence of the jury.

THE COURT: All right. Well let's get the witness sworn.

JOY KINYON,

called as a witness at the request of the Plaintiff, having been first duly sworn, was examined and testified as follows:

THE WITNESS: Yes, I do.

THE CLERK: Have a seat right over here, please. And can you state your name and spell it for the record, please.

THE WITNESS: My name is Joy Kinyon, J-O-Y K-I-N-Y-O-N.

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DIRECT EXAMINATION

BY MR. MERCER:

Q. Mr. Kinyon, you're employed by Rangen?

A. Yes, I am.

Q. One of the defendants in this case?

A. Yes.

Q. You have a bachelor's degree in business administration from Wartburg College in Waverly, Iowa?

A. Yes, I do.

Q. You began working for Rangen in 1997?

A. Yes.

Q. Rangen has four divisions?

A. Yes.

Q. Aquaculture, general feeds, commodities and logistics?

A. That is correct at that time, correct.

Q. You started as division manager over the aquaculture division when you began working for Rangen?

A. Yes.

Q. And in approximately 2003 you became the division manager over the general feeds division and the aquaculture division?

A. Yes.

Q. And continued in that position until 2010?

A. Yes.

Q. And through 2010?

A. Yes.

Q. So you were the division manager over the two divisions at Rangen that produced feed?

A. Yes.

Q. Feed for fish and feed for terrestrial animals; is that correct?

A. Yes.

Q. In 2010, you reported to Wayne Courtney the executive vice-president at Rangen?

A. Yes.

Q. And in 2010, Wayne Courtney reported to Chris Rangen the president and CEO of Rangen?

A. Yes.

Q. In 2010, was Rangen a Tollmiller?

A. Yes.

Q. And Tollmilling means that Rangen manufactures products for other companies which those companies sell to their customers, correct?

A. Yes.

Q. Rangen was a Tollmiller for National Feeds in 2010?

A. Yes.

Q. So Rangen had a contract with National Feeds in 2010?

A. Yes, we did.

Q. You're familiar with the basic terms of Rangen's contract with National Feeds?

A. Yes.

Q. One of the terms is that Rangen will quote, "maintain the standard and quality of the goods processed by it," close quote?

A. Yes.

Q. Another term is that Rangen guarantees to National that the goods it makes will not be adulterated; is that correct?

A. Yes.

Q. In 2010, National Feeds would send a feed formula to Rangen and Rangen would then produce the feed according to the formula; is that correct?

A. Yes.

Q. Then Rangen would ship the feed to National Feeds' customer on behalf of National Feeds; is that correct?

A. In some cases, yes.

Q. And that is where Rangen's logistics division comes into play, the shipping; is that right?

A. No.

Q. But did Rangen ship the national lactation -- the National Feeds lactation crumlets to Kent Griffeth in Preston, Idaho in April of 2010?

A. I am not sure if we shipped them ourselves or if they picked them up in that case.
Q. But you don't know?
A. No.
Q. Did Rangen prepare and send the invoices on behalf of National Feeds?
A. No.
Q. Who prepared the invoices?
A. I don't know.
Q. But you're sure Rangen didn't do it?
A. Rangen did not invoice National's customers, no.
Q. So Rangen didn't issue an invoice to Kent Griffeth?
A. No.
Q. Or Keith Jonsson?
A. No.
Q. Or Roger Griffeth?
A. No.
Q. In 2010, were you the ultimate decision maker at Rangen for the purchase of fish meal?
A. I was one of them, yes.
Q. In 2010, did you know whether there were some preservatives that could be put into fish meal that might be dangerous to mink?
A. I don't.

Q. In fact, you had no knowledge about that, did you?

A. I knew that fish meal that we were purchasing was preserved with ethoxyquin.

Q. That is not what I asked you. In 2010, did you know whether there were some preservatives that could be put into fish meal that might be harmful to mink?

A. No, I did not know that.

Q. In fact, you have no education or training in mink; is that correct?

A. Correct.

Q. There is an exhibit book in front of you. Could you turn to Exhibit 14, please.

MR. MITCHELL: This would be the time, Your Honor.

THE COURT: Ladies and gentlemen, I'm going to give you your 15 minute break, your morning break. And remember what I told you. Don't talk to anybody about this case. You may be excused.

(Whereupon, the jury left the courtroom.)

THE COURT: You go ahead.

MR. MERCER: Thank you, Your Honor. Could you turn to Exhibit 14, please.

THE WITNESS: Okay.

Q. (By Mr. Mercer) What is that?

A. It is a warning letter issued by the FDA dated

February 11th, 2010.

Q. Addressed to whom?

A. Addressed to Christopher T. Rangen, president.

Q. Were you CCed on that letter?

A. Yes, I was.

MR. MERCER: Your Honor, I offer Exhibit 14. I would like to -- well, I will proceed with my questions.

Q. (By Mr. Mercer) With regard -- the letter states, does it not, that the FDA investigators inspected Rangen's animal feed manufacturing facilities in Buell, Idaho; is that correct?

A. Yes.

Q. And it states that the inspection revealed significant deviations from federal regulatory requirements; is that correct?

A. Yes, it is.

Q. And it also states that that failure resulted in Rangen manufacturing adulterated products; is that correct?

A. Yes.

MR. MERCER: I offer Exhibit 14.

MR. MITCHELL: If I might inquire, Your Honor?

THE COURT: I'm sorry?

MR. MITCHELL: If I might inquire of the witness?

THE COURT: Oh, sure.

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VOIR DIRE EXAMINATION

BY MR. MITCHELL:

Q. Mr. Kinyon, when did the inspection referenced in this letter take place?

A. June 9th through the 11th, 2009.

Q. And when was the feed in this case made?

A. In March of 2010.

Q. And what were the issues that were raised by the inspection that occurred in June of 2009?

A. The issues raised were that we failed to label, correctly label, some pallets of feed. That was one of the issues. The other issue was that we delivered some bulk mink feed in auger trucks.

Q. Now, the bulk mink feed, does that have any relation to the feed that we're talking about in this case?

A. None whatsoever.

Q. Okay. And so the palletized feed that we're talking about that didn't have a correct label on it, what was incorrect about that label?

A. The label failed to contain the statement do not feed to cattle or other ruminants.

Q. Did the FDA find any other defect associated with that feed?

A. No.

Q. And what is the significance of the statement,

"do not feed to cattle or other ruminants"?

A. The significance is that it is designed to keep that feed from being fed to cattle to avoid BSE or chronic wasting disease.

Q. What is the common name for common wasting disease?

A. Mad cow disease.

Q. And did the inspection and the findings within the inspection have anything to do with fish meal preservatives?

A. None whatsoever.

Q. Did the inspection or its findings have anything to do with histamines?

A. No.

Q. Did the inspection or its findings have anything to do with nitrosamines?

A. No.

Q. Did the inspection have anything to do with any alleged cause of harm to the mink in this case?

A. No, not at all.

Q. Thank you. By the time that the feed was in this case was made, had Rangen changed its processes to address the issues that were raised within Exhibit 14?

A. Yes, we had.

Q. And how did you do that?

A. We, in June of 2009, we immediately stopped purchasing -- the purchase of meat and bone meal and we immediately began to use up our remaining inventory of meat and bone meal which was all used up within 30 days, so it was used up by mid July of 2009. We also cleaned out the auger trucks and did a complete wash out and inspection of those auger trucks to remove any residual mink feeds that may have been in those trucks.

Also, we did a complete blow down, a deep cleaning, if you will, of the entire mill and milling equipment where this product was being manufactured, i.e. the aquaculture feed mill.

Q. Okay. Would you take a look at Exhibit Number 9 in your book. That is the copy of the label that came off of the feed that was -- that is at issue in this case. And does this label contain the statement that do not feed to cattle or other ruminants. If you look right in the middle right above the word caution?

A. Yes it does.

Q. Okay.

MR. MITCHELL: No further questions.

MR. MERCER: Your Honor, I received this morning, at 9:15 or 9:20, from Mr. Mitchell this memorandum and I would like to respond to that now if I may.

THE COURT: First of all, tell me what you claim for

the notice.

MR. MERCER: Here is what I claim from the notice. Number one, in its opening statement in this case, the defendant Rangen put at issue its -- its careful procedures that it has conducted for decades in cleaning out and having impeccable standards of -- in its processes.

THE COURT: Well, he has told us that he got a notice and they worked hard to correct it prior to the 2010 season.

MR. MERCER: I understand he said that, however, number two, Dr. Hall put at issue that Dr. Hall said the very words cross-contamination can cause the nitrosamine problem. This letter from an FDA inspection says the words from the -- our investigation determined that adulteration resulted from the failure of your firm to provide for measures to avoid commingling or cross-contamination. Mr. Kinyon says we took measures to fix it, but it is the exact issue in this case that has been presented by Dr. Hall.

Finally, Your Honor, oh, and the letter also says on Page 2, at the top of page 2, you conducted no clean-outs or flushes of the equipment to remove proteins derived from, et cetera, et cetera.

THE COURT: Yeah this was for February 2009.

MR. MERCER: I understand that.

THE COURT: Yeah.

MR. MERCER: Finally, Your Honor, in the pretrial order, this document was stipulated to as admissible, and at the pretrial conference, the court, someone, Mr. Hancey raised the issue of motions in limine and the court said this is the day for motions in limine.

THE COURT: Oh.

MR. MERCER: There were no others and today and now this morning in the middle of the jury trial we have a motion in limine on a document that was stipulated to.

THE COURT: Well, the question is whether it is an appropriate exhibit or not and to what extent is it relevant to the issues. And you have got a causation issue here. You suggest that there may be cross-contamination. Hopefully, you'll provide information from this witness problems of that kind. But the interesting question and you mean you previously have been put on notice that you need to watch cross-contamination, people should tell you what to do. I have trouble with this frankly. Ordinarily, I would indicate that motions in limine often take place during the course of the trial itself. I don't specifically recall saying now is the day but I could have. But the question is how is 14 going to help us in this case involving these batches which were produced apparently long after February of 2009.

MR. MERCER: They were. But again, hasn't the

defendant put this issue right squarely in front of the jury when it said Rangen has had these impeccable standards for decades. Apparently that is not true.

THE COURT: We like to tell jurors that opening statements are not evidence, they're to be concerned with the evidence that they receive. The attorneys aren't here as witnesses. They sometimes pretend to be, but they're not. I think he has got a point. I think that the letter as a letter, Exhibit 14, is objectionable. State again your objection.

MR. MITCHELL: Your Honor, we object to its relevance and we object to it on 401 grounds as well.

THE COURT: Which are?

MR. MITCHELL: I'm sorry, 403 prejudicial. It is -- any beneficial effect that it might have is far outweighed by its prejudicial effect. And in fact what the plaintiff is trying to do is use a letter written by a governmental agency long before the events in this case.

THE COURT: Well, defendants often do that as well.

MR. MITCHELL: Sure. But talking -- what the -- what they're specifically trying to do in this case falls squarely within the relevance issue. It doesn't have anything to do with histamines, nitrosamines.

THE COURT: Well, you acknowledge that the cross-contamination can occur?

MR. MITCHELL: Do I acknowledge that cross-contamination can occur? In the abstract, certainly.

THE COURT: Certainly. In the concrete, specifically. Okay. I think the exhibit is objectionable, I will sustain the objection as an exhibit. I am not suggesting that you can't appropriately cross-examine as to practices.

MR. MERCER: Okay. And I would like to just make my offer of proof from the evidence I have submitted outside from the jury and make sure that Exhibit 14 is in the record as an offer of proof.

THE COURT: No, no, you made your offer. He objected. You cross-examined him, well you adversarially examined the witness, I thought that was your proffer.

MR. MERCER: So my proffer is that examination as well as Exhibit 14 which I understand --

THE COURT: Well, it was Exhibit 14 that I have ruled upon. I haven't ruled upon anything else.

MR. MERCER: Okay.

THE COURT: Okay. Take 10 minutes and we'll get started again. Objection sustained as to 14.

(Recess taken at 10:51 a.m.)

THE CLERK: Should I bring the jury in?

THE COURT: It looks like we're all here. Bring in the jury.

THE CLERK: All rise for the jury.

(Whereupon, the jury returned to the courtroom.)

THE COURT: Thanks folks, sit down and relax. Appreciate your patience and your help and you may continue.

MR. MERCER: Thank you, Your Honor.

Q. (By Mr. Mercer) Mr. Kinyon, in 2010 did Rangen manufacture fish meal?

A. No.

Q. So in 2010, Rangen purchased all of its fish meal from outside sources?

A. Yes.

Q. Does the Food and Drug Administration, the FDA, inspect Rangen's facilities?

A. Yes.

Q. Often?

A. Periodic.

Q. Has Rangen ever been cited by the FDA for failure to follow FDA regulations?

MR. MITCHELL: Objection, judge.

THE COURT: I'll let him respond to that. And let's talk about practices if they come in and inspect -- let him tell us what they do, and that is what Rangen does. You can get into Rangen's practices themselves in handling fish meal and other items.

Q. (By Mr. Mercer) Do you need me to restate the question?

A. Please.

Q. Has Rangen ever been cited by the FDA for failure to follow FDA regulations?

A. Yes, we have.

Q. Has the FDA ever determined that Rangen's failure to follow FDA regulations resulted in products being manufactured and distributed?

MR. MITCHELL: Objection, judge.

THE COURT: Yeah. Let's focus on the time frame that is involved in this case, counselor.

Q. (By Mr. Mercer) Okay. When did the FDA find Rangen in violation of FDA regulations?

MR. MITCHELL: Objection, judge.

THE COURT: When in 2010? Is that your question?

Q. (By Mr. Mercer) Were you cited in 2010?

A. No, we were not.

THE COURT: We're interested in his processes.

Q. (By Mr. Mercer) What kinds of things is the FDA inspecting when it comes in and conducts an inspection?

A. We have had inspections where they have come in and checked our drug records for the use of various drugs we may use in some of our animal feeds. They check our receiving logs, they check our usage logs of those drugs to make sure that we're following our own procedures.

Q. Okay. Do they ever check to see -- do they ever

review your commingling? Do they ever -- do they ever inspect your facilities in order to determine whether there is any commingling between the last batch that you mixed and the next batch that you mix?

A. No, not specifically, they don't.

Q. If they ever made a determination that that had happened, how would they make that determination?

A. Um --

MR. MITCHELL: Objection, lacks foundation.

THE COURT: Yeah. Why don't you have him tell us about his mixing processes and his clean-up processes.

Q. (By Mr. Mercer) Can you tell me about your clean-up process between the last batch and the next batch?

A. Um, I assume you're asking the question about different types of feeds from one batch to the next. I guess that makes a little more clarification.

Q. Does that make a difference?

A. Yes, it does.

Q. So if you were changing from a fish meal -- a fish feed, a feed that you are feeding to fish in aquaculture, right, to, for example, a mink feed, tell me about the clean out process in the mixing bowl?

A. In that case, we may do a flush, depends upon the formulation of the two products, because there is so many similarities between the ingredients that are used in the

mink feeds and fish feeds so there is -- there is not a lot of cause for concern or contamination between those two feeds.

Q. So you may not do much of a clean out at all?

A. Possibly, yes.

Q. And is that the kind of thing or is that the kind of process that the FDA would investigate during an investigation of Rangen's facilities?

A. No, not -- no.

Q. Never?

A. They come in and inspect our drug records again. They come in and do an occasional inspection for restricted protein use. Those are the only two instances that I'm aware of them coming in. But they're both very routine in nature.

Q. So you can't think of any FDA inspection -- you're aware of no type of FDA inspection of Rangen's facilities where they might determine that you have not conducted appropriate clean out procedures or flushes of your equipment?

MR. MITCHELL: Objection, judge.

THE COURT: Well, it would be really helpful, counselor, if you would have him describe the process by which they mix feed and the machinery with which they use in the mixing of feed, and the manner in which they clean the

machines after the feed has been mixed when another batch is to be mixed. His processes are interesting, at least to me, in this case as to what they do. They get an order to mix feed, tell us about your factory, tell us about how you mix it, tell us about your machines. Tell us about how you comply with the order from National Feeds in order to produce a particular product. What do you do? And do you have a regular process for flushing your machines? How often do you do that?

Q. (By Mr. Mercer) Thank you, Your Honor. Mr. Kinyon, I understand that you have very large mixing bins at Rangen; is that correct?

A. We have a -- mixers? Are you talking about the mixer or are you talking about the ingredient bin?

Q. Why don't we talk specifically about the mink feed that you mixed for Rangen on March 30th, 2010. Are you familiar with that mix?

A. Vaguely.

Q. Vaguely. Were you not in charge of that division when that mink feed was mixed?

A. Yes, I was.

Q. But you're only vaguely familiar with that particular batch?

A. Well, I'm only vaguely familiar with all of the ingredients that were used at that time. That was in 2010

so --

Q. Do you know anything about the ingredients that were put in that batch?

A. Not without looking at the mix sheet.

Q. Do you know anything about what facility was used?

A. Yes.

Q. Which one?

A. It is in our building warehouse five or manufacturing facility in aquaculture.

Q. And what is aquaculture?

A. Fish feed.

Q. And does that mean that is not fish meal, is it?

A. No, it is not.

Q. So how are the two different?

A. Well, fish meal is an ingredient, it is an ingredient that is used in animal feeds and fish feeds. Fish feed itself is fish that is actually fed to the trout in the stream or the bass in the pond or the catfish in the pond.

Q. So what Rangen does is manufacture, one of its divisions, the aquaculture division, manufactures feed that you throw into the water to feed the trout or the salmon on a fish farm; is that correct?

A. Yes.

Q. And it is in that aquaculture division that you also manufacture mink feed; is that correct?

A. Correct.

Q. Why is the mink feed manufactured in the aquaculture division instead of the general feeds division for terrestrial animals?

A. It is the process that we use to -- we use an extruder to extrude a lot of that mink feed and that is where our mixture is located.

THE COURT: I'm going to have you pull that mike a little closer to you and speak into the mike so that everybody can hear.

THE WITNESS: The extruder is located in the aquaculture facility. Typically animal feed facilities do not have extruders for their cow feeds or their pig feeds, so it is a more expensive process.

Q. (By Mr. Mercer) What percentage of business is the mink feed portion of the entire aquaculture division?

A. I don't know the exact percentage, but it is -- it would be a small percentage.

Q. Ten percent or so?

A. Maybe, yeah.

Q. Do you know anything about the clean out procedures between the mix of a fish feed in that facility you're telling me about, and the moving over then to the

mixing of a mink feed?

A. I know some of the clean out process if it is required. Again, as I testified earlier, um, it is not always required between the two types of feed because the ingredients are so similar.

Q. Who makes the decision about whether it gets cleaned out or not?

A. That would be between the mill manager and our nutritionist.

Q. You don't have much to do with that?

A. No, they're very competent at what they do.

MR. MERCER: I have no further questions.

THE COURT: Cross-examination.

DIRECT EXAMINATION

BY MR. MITCHELL:

Q. Mr. Kinyon, where do you live?

A. I live in Buell, Idaho.

Q. Where is Buell located?

A. It is about -- it is in south central Idaho, 25 Miles West of Twin Falls in Twin Falls County.

Q. How big a town is Buell?

A. Oh, it is only 4,000 people.

Q. You talked just a little bit about your background at Rangen. As I recall your testimony, you indicated that you started there in 1997?

A. Yes.

Q. Tell us a little bit -- give us a little bit of a history of Rangen. How long -- what is it, how long has it been around?

A. Well, Rangen is a family owned business, third generation owners, currently owned by Chris Rangen. His grandfather started the operation in 1925 so we're at 89 years in operation. They started as a feed and ice company where we supplied ice to a lot of the fish, trout processors in the valley, Magic Valley as it is known there.

It has grown into -- in 19 -- approximately 1950 we started the aquaculture division where we started manufacturing some aquaculture feed and it grew from there to 1976 when we added the Rangen Aquaculture Research Center which is the 70 acre parcel that is located along the Snake River where we have spring fed streams to raise trout and to conduct experiments, feeding trials, as well as to help develop some of the feeds that we currently use and manufacture and to work on future diets as well.

Q. What other types of business activities does Rangen have going on?

A. Okay. Currently we have the aquaculture division as I described, and we also have the general feeds division which is the livestock feed division where we supply a lot of the rolled grains and rolled mixes, mineral pre-mixes,

and specialty calf feeds like that to the dairies in the Magic Valley as well as the other animal producers. We also have a commodities division who deal with the local growers where they receive and process dry edible beans for distribution into the food industry. And we just -- we also have our own transportation equipment to where we deliver a lot of our fish feeds that we manufacture and most of our animal feeds that we manufacture in the general feeds division.

Q. And what kind of research does Rangen undertake in its research facility?

A. Well, we have done quite a bit of different research over the years. One of the -- probably the most successful research project that we had is Rangen developed a product that was a stabilized Vitamin C commonly known as Stay-C in conjunction with Kansas State, and it is -- currently it is being distributed throughout the world as a very viable Vitamin C source.

Q. I believe that you indicated that as part of your role as the manager of the aquaculture division that you are involved in some of the purchasing that goes on for that division. Did I understand that correctly?

A. Yes, I oversee the purchasing function as well.

Q. Okay. Is your involvement in the purchasing function more from the business side of things or more from

the nutrition side of things?

A. It is primarily from the business --

Q. Okay.

A. -- side.

Q. So from your perspective or from the business perspective, what are the things that you're looking at as you're going about and purchasing things like fish meal?

A. Well, first off for the purchasing processes it is a collaborative effort with our nutritionist and our purchasing agent as well as myself in trying to determine the specifications of the ingredients that are needed as defined by our nutrition people whether it is David Brock in aquaculture, or our other animal feed nutritionist.

So that collaborative effort defines the specification of the ingredients we would like to have and then we put our queries in an attempt to identify suppliers that may have products and invite them to submit their products for review of their specifications to see if they will determine or meet our requirements. If so, then we'll go into a -- in some cases, we'll go into a quoting process where it is competitive bids between the suppliers of common ingredients. And in other cases where there are proprietary ingredients, we negotiate with that sole source type of purchase activity.

Q. And does Rangen use a different process for

ingredients that it purchases that it uses to make its own feed as opposed to ingredients that it purchases that are going to be incorporated into feed that it is making for somebody else?

A. No, there is no difference at all.

Q. How long have you been involved in the purchasing process at Rangen?

A. Well, since I started in 1997 so it is going on my 17th year.

Q. Okay. In that time period, have you ever -- prior to this case, have you ever been made aware of any complaints involving histamines coming out of feed that has been made in your aquaculture division?

A. Not at all.

Q. How about with nitrosamines? Have you ever been made aware of any complaints prior to this case of nitrosamines in feed that has come out of your aquaculture division?

A. None whatsoever.

MR. MITCHELL: That is all I have. Thank you.

CROSS-EXAMINATION

BY MR. MINNOCK:

Q. So, Mr. Kinyon, you indicated earlier that you purchased fish meal for Rangen or you're part of that process?

A. Yes, uh-huh (affirmative).

Q. And do you understand what that is preserved with?

A. I know what the industry standard is, it is ethoxyquin.

Q. All right. And for the materials that you have purchased, have they all been preserved with ethoxyquin?

MR. MERCER: Objection, Your Honor, foundation.

THE COURT: Well, if you know.

Q. (By Mr. Minnock) To your knowledge, have they always been preserved with ethoxyquin?

MR. MERCER: Same objection.

THE WITNESS: Yes.

Q. (By Mr. Minnock) And ethoxyquin is not a nitrate based product, right?

A. No.

MR. MINNOCK: Okay. Thank you.

REDIRECT EXAMINATION

BY MR. MERCER:

Q. Mr. Kinyon, how many times has Rangen been sued in the last say five years?

MR. MITCHELL: Objection, judge.

THE COURT: Sustained.

MR. MERCER: No other questions.

MR. MITCHELL: May this witness be excused, Your

Honor?

MR. MINNOCK: No objection.

MR. MERCER: No objection.

THE COURT: No problem. Thank you, sir. You may be excused. Call your next witness.

MR. MERCER: Plaintiffs call David Brock.

THE CLERK: Raise your right hand.

DAVID LORING BROCK,

called as a witness at the request of the Plaintiff, having been first duly sworn, was examined and testified as follows:

THE WITNESS: I do.

THE CLERK: Have a seat right over there.

MR. MERCER: Can you state your name and spell it for the record, please.

THE WITNESS: Yes. It is David Loring, L-O-R-I-N-G, Brock, B-R-O-C-K.

DIRECT EXAMINATION

BY MR. MERCER:

Q. Good morning, Mr. Brock. You have worked for Rangen since July of 1990; is that correct?

A. That is.

Q. Over 23 years?

A. Yes.

Q. Do you have a master's degree?

A. Yes.

Q. Your first job at Rangen was quality control technician; is that right?

A. That is correct.

Q. As the quality control technician you monitored incoming ingredients for animal feed?

A. Yes.

Q. After two or three years you became the manager of the quality control program; is that right?

A. Four years.

Q. Four years?

A. No, no it was a year and about four months. I was a tech before I became the manager.

Q. Okay. In 2004 or 2005, you became Rangen's aquaculture feed nutritionist?

A. Yes.

Q. Pull that microphone up a little bit. And what -- and you're still Rangen's aquaculture feed nutritionist?

A. That is correct.

Q. Are you currently the aquaculture nutritionist and quality control manager over aquaculture at the Buell Idaho location of Rangen?

A. Yes.

Q. And you had that position in 2010, both positions?

A. Yes.

Q. Was Joy Kinyon your supervisor in 2010?

A. Yes.

Q. Is mink feed mixed in the aquaculture division at Rangen?

A. Yes.

Q. Did Rangen mix mink feed for National Feeds in 2010?

A. Yes.

Q. Did Rangen mix mink lactation crumlets for National Feeds on March 30, 2010?

A. Yes.

Q. In 2010, was it Dre Sanders at National Feeds who provided the lactation crumlets formula for National -- for Rangen to mix that mink feed?

A. Yes.

Q. Was it your responsibility to make sure that the mix list was accurate before it went to the mixer operator?

A. Yes. Dre provides the formula, I input it into my formulation system, and from there a mix sheet is generated by the foreman at the plant.

Q. Was the mix list accurate?

A. Yes.

Q. Did Rangen mix the lactation crumlets according to National Feeds' formula?

A. Yes.

Q. Did National Feeds give Rangen any quality specifications for the lactation crumlets?

A. No, other than the only spec they provided was that there was to be no whole pellets in the crumlets.

Q. Okay. Was fish meal the primary ingredient for the National Feeds lactation crumlets manufactured on March 30th, 2010?

A. I have not committed those formulas to memory so I'm not sure of the exact amount of fish meal that went into that formula.

Q. So you have no memory of what the primary ingredient for mink feed would be?

A. Define primary.

Q. The most?

A. No, I would say in many of their formulas fish meal is not the primary ingredient in their formula.

Q. Who supplied the fish meal that was used for the mink lactation crumlets, Rangen or National Feeds?

A. So this was a fish meal that Rangen had in their inventory and National Feeds -- Rangen had this fish meal in their inventory.

Q. So the answer to my question is Rangen?

A. Yes.

Q. Rangen provided the fish meal that went into the

March 30, 2010, formula?

A. Yes.

Q. Did National Feeds provide any fish meal to Rangen for mink feed in 2010?

A. No.

Q. In 2010, did Rangen check any of its fish meal for histamine?

A. No, we didn't have --

Q. In 2010 did Rangen check any of its fish meal for nitrites?

A. No.

Q. That is because it wasn't a specification that National Feeds required; is that correct?

A. It was not a specification that National Feeds required nor was it --

Q. I just want you to answer my questions. Thanks. Did Rangen ship the National Feeds lactation crumlets directly to Kent Griffeth in Preston, Idaho in April of 2010?

A. I can't be sure that I know who shipped it without looking at shipping documents.

Q. Do you know that it was shipped from Rangen to Kent Griffeth?

A. Yeah, I think I have seen that there was a -- I have seen a bill of lading that indicates that it was

shipped.

Q. But it didn't go through National Feeds, it went directly from Rangen to Griffeth; is that correct?

A. Typically the way it works is National provides us an order form that indicates how they would like to have the feed delivered. And so it is at their direction that we -- on how we ship it.

Q. But in answer to my question, you believe that the bill of lading you have seen shows it going directly from Rangen to Griffeth?

A. Yes.

Q. Did Rangen prepare and send the invoice to Griffeth on behalf of National Feeds?

A. No.

Q. Do you know who prepared it?

A. No.

Q. In 2010, was mink feed a large or small part of the feed produced by Rangen?

A. As Mr. Kinyon stated earlier, it is less than 10 percent.

Q. In 2010, did you know whether one type of fish meal was better for mink than another type?

A. No. While I have a basic --

Q. I just want you to answer my questions yes or no.

THE COURT: Let him answer it.

Q. (By Mr. Mercer) Okay. Go ahead.
A. Well, I have a basic understand of animal nutrition and understand that animals require clean water, a source of wholesome food and mink are, you know, no exception. The specific requirements of mink on a nutritional basis like this I'm not that familiar with.
Q. And you didn't know in 2010 either, did you?
A. Can you repeat the question or --
Q. My question, my original question was, in 2010 did you know whether one type of mink feed, one time of fish meal was better for mink than another?
A. Usually in those cases I relied on my resources to determine questions like that. And in a case like that, I would have called Dre Sanders and discussed that with him.
Q. Okay.
A. And so that would have been up to Dre Sanders.
Q. Okay. So let me try a third time. In 2010, did you know whether one type of fish meal was better for mink than another?
A. No.
Q. In 2010, did you know anything about mink nutrition?
A. As I have previously stated, I think I have a basic understanding of the nutritional requirements of domestic animals. But if I would have specific questions on

mink nutrition, I would have used my resources or including calling Dre Sanders of National.

Q. In 2010, did you know anything about mink nutrition?

A. Yes.

Q. I'm going to -- do you recall your deposition being taken in this case?

A. Yes.

Q. I'm going to open your deposition and hand it to you and ask you to turn to Page 158 Line 25. Are you there? Do you see that, Page 158? Do you recall your deposition being taken on June 30th, 2012?

A. Yes.

Q. I'm going to read a question that was asked and I would like you to read your answer. Well, let's just take those four, herring, sardine, menhaden, catfish, is there a preference as to which of those would be better for mink feed or are they basically, as you have said earlier, all in the eyes of the nutritionist? And your answer?

A. No, not understanding mink nutrition at all, I don't understand and recognize how fish meal works in mink and, you know, the basis for its formulation value.

Q. Also turn to Page 192 Line 14. I'm sorry, 192 line 21. Are you there? The question asked was, okay, and based on your education and experience, I have heard some of

your answers and you mentioned that you referred to Dre Sanders about questions about mink nutrition. And what I'm taking from you is that you do not consider yourself an expert in mink nutrition, is that accurate? And your answer?

A. I don't know a thing about mink nutrition. Am I an expert? No way.

Q. In 2010, did you know anything about mink nutrition?

A. No.

Q. Did you retain, on behalf of Rangen, samples of the lactation crumlets you mixed for National Feeds on March 30, 2010?

A. Yes, that was standard policy.

Q. Did Rangen test those samples?

A. No.

Q. Did you send those samples to National Feeds?

A. No. Excuse me, let me -- the standard policy when we made National Feeds was to sample it during the run, and have a run composite sample that was then split into two samples, one of which Rangen kept, and one which we sent off to National.

Q. So did you send those samples to National Feeds?

A. We send a sample of every run of feed to National.

Q. And did you send the March 30, 2010, sample to National Feeds?

A. Yes.

MR. MERCER: No other questions.

CROSS-EXAMINATION

BY MR. MITCHELL:

Q. Mr. Brock, let's back up just a little bit. What is your educational background?

A. So I went to Colorado State for my bachelor's and there I studied fish and wildlife science and got my bachelor's in fish and wildlife science. Subsequent to that -- with an emphasis on aquaculture. Subsequent to that, I went to the University of Washington for several semesters where there was some renowned fish nutritionists and studied fish nutrition, aquaculture, and also feed manufacturing.

Subsequent to that, I was accepted into a master's program as Mississippi State and pursued a master's there under a fish nutritionist. While there, I also studied fish nutrition and aquaculture as well as wildlife. And eventually during that process I wrote a thesis, did research, collected data, analyzed the data and wrote a thesis which I defended at the end of my master's process and I achieved a master's of science there in what was called wildlife science.

Q. Did your master's degree have any particular emphasis?

A. Yes, definitely, aquaculture nutrition.

Q. And what was the process, you touched on it a little bit, but can you flesh out a little bit the process that you went through to get your master's degree?

A. So I had been interested in nutrition and aquaculture nutrition after my bachelor's and so I was accepted in -- to get my master's degree, I was accepted into the program at Mississippi State that paid me a small stipend and so while at Mississippi State I took courses in aquaculture nutrition, in aquaculture, um, we did research projects down -- they had a research farm and so we would do nutrition projects, I would participate in those down on the farm at Mississippi State. And meanwhile, I was also doing research on striped bass larval nutrition and that is what my thesis was on.

Q. Now you -- you were just talking about your knowledge of mink nutrition or your lack of knowledge regarding mink nutrition. Is the formula that Rangen used to make the feed in this case something that you put together?

A. No.

Q. Whose formula is it?

A. I received that formula from National, Dre

Sanders specifically.

Q. And even though you don't have a background or expertise, shall we say, in mink nutrition, do you still utilize your education and training and experience when those formulas come in?

A. Most definitely. I understand the ingredients that we have in-house well. I review the formula, you know, to make sure that it will manufacture correctly and produce the desired feed. And then if in looking over the formula I see any issues, I will typically get on the phone to Dre Sanders and discuss those with him.

Q. And who is Dre Sanders?

A. Dre Sanders is the nutritionist for National.

Q. Is Dre the one that develops the formulas that he sends over?

A. Honestly I'm not sure how Dre goes about developing the mink formulas.

Q. Okay. Now, as of March 30th, 2010, how long had you been working for Rangen?

A. 20 years.

Q. And in those 20 years, had Rangen ever received a complaint about histamines in feed that it made?

A. No.

Q. In those 20 years had Rangen ever received a complaint about nitrosamines in the feed that it made?

A. No.

Q. You mentioned when you were being examined by counsel that your first position with Rangen was as a quality control technician. Did I understand that correctly?

A. Yes.

Q. What is that position within Rangen?

A. So what a quality control technician does in the aquaculture feeds division at Rangen is first of all inspect ingredients coming in. When a load of ingredients comes in, um, the fellow unloading it and a quality control technician will get up and whether it is a railcar or a truckload or a bag load, inspect the ingredients. They will pull some samples, look for anomalies, things that are not consistent in the ingredients. They'll smell it, they'll probe it and take moistures to make sure that the moisture content is within our specifications. And then from there, then the quality control technicians also involved in monitoring feed production, making sure that the feed they produced meets the specifications for that diet and collecting data and that kind of thing.

Q. Okay. And how long were you a quality control technician?

A. About a year and four months.

Q. And what position did you assume at that point?

A. So after that I was the director of quality control.

Q. So you were promoted to the position of director of quality control?

A. Yes.

Q. And what are your responsibilities as the director of quality control?

A. So as the director it was -- well, I did spend time in the mill, it was a little bit more involved with managing the quality technicians. I would -- I would work with them on training of mill employees, I would work with them on developing specifications, and I would work with the manufacturing people on developing specifications, and then I would work with the buyer on ingredients and specifications for the ingredients.

Q. Okay. Do you still hold that position today?

A. Yes.

Q. Okay. Do you hold any other positions at Rangen?

A. So yes, as the head nutritionist with the aquaculture division.

Q. And how long have you held that position?

A. 20 years, since 1994.

Q. What do you do as the nutritionist in the aquaculture division for Rangen?

A. So as nutritionist, again I work with the

manufacturing people to help them understand some of the ingredient issues, concerns to be on the lookout for. I work with, again, the QA technicians on specifications. I work with the purchasing agent and the division manager on purchasing ingredients and developing specifications for those ingredients. I also work with the research group out at the hatchery doing research on different fish diets, on different ingredients, and then also attend some meetings to, you know, continue to work with -- I work with some university individuals, researchers on fish diets and nutrition.

Q. Okay. Now, let's turn to the relationship between Rangen and National. And as I understand it, there are a number of types of feed that Rangen makes for National?

A. That is correct. We make -- so National has formulas for the various life stages of mink. They have feed for reproduction, lactation, early growth, growth, furring and maintenance. And so we make formulas, I believe, for all of those stages.

Q. And how is the manufacturing process for National initiated with Rangen?

A. So what happens usually is that we get an order from -- an e-mail from one of the National secretaries that is a spreadsheet that details the type of diet that they

want, the number of pounds, how it is to be shipped, and again the name of the product and the form of the product. There is kibbles which are made in an extruder, and then there is crumlets that are made on a pellet mill.

Q. Okay.

A. And so from there, what will happen --

Q. Hold on a second, would you. I would like to --

A. Okay.

Q. You mentioned that you receive the order on a spreadsheet. Would you take a look at Exhibit Number 37 for me in your notebook there. I'm going to take a big risk and shift this cart around and move the screen so people can see.

MR. MINNOCK: Say when.

Q. (By Mr. Minnock) Hopefully people can see. Is Exhibit Number 37 the type of spreadsheet that you were referring to?

A. Yes.

Q. And is it typical to receive spreadsheets like this with a number of names on it, we see Kent Griffeth, I can't read this one here, maybe it shows up better in that copy there, Scott Harris, Glen Alder?

A. Yes. So we would typically receive -- that was a -- that would be an ongoing spreadsheet for the orders that are in and the last order placed would typically be on the

bottom of it.

Q. Okay. So as we're looking at the spreadsheet here, walk me through each of these categories of information that we can see on here?

A. So the first order we have is from Kent Griffeth. It details his contact information under his name, next is the name of the diet that he has ordered.

Q. Is that lactation crumlets?

A. Yes.

Q. Okay.

A. The next column is the type of processing used to make that feed and it says steam.

Q. What does that mean?

A. That is the manufacturing process used to make it called steam pelleting.

Q. Are there different types of manufacturing processes that might be used?

A. Yes. Like I mentioned, some of the National Feeds is also a kibble which is run on a different piece of equipment that makes a product that would look like a dog food, a piece of dog food would be a kibble, it would be a floating, where this would be a steam pelleted and compaction pelleted it would be a sinking pellet.

Q. Okay. And then what is the next category of information that we have here, 20,000 bags?

A. Yes. So the header on the 20,000 above that says pounds. And so that is the column that tells us how many pounds and then the form of the -- how they want it packaged. Occasionally, we will package some of their product in tote bags, this was a 50-pound paper bags.

Q. Okay. And then what is the next piece of information that we see on this order sheet?

A. So the next piece of information is the order date that it was ordered, and then the next column it is the date they would like to have it delivered.

Q. And was the feed ready to be delivered on April 5th of 2010?

A. You know --

Q. Let me ask it this way. What date was the feed manufactured?

A. You know, I would have to look at the run report to see the specific date.

Q. Would it show on the mix sheet?

A. Yes.

Q. Okay. We'll look at that in a little bit here. And then what is the designation for the deliver pick up?

A. So that was usually how they -- if we were to arrange the freight or if the customer would pick it up, so that is usually the information that was detailed there.

Q. Okay. And in looking at this spreadsheet were

there other orders that were made the same day as the Griffeth order?

A. So on this order sheet there is Kent Griffeth order, Keith Jonsson order, and Scott Harris order.

Q. So is the Keith Jonsson the second one that doesn't come through on my copy?

A. Yes.

Q. Okay. So we have got the -- we have gotten to the point where this order comes in from National, what is the next step in the process that you folks go through in making feed for National?

A. So what I would do when this order came in is check and see what the product is that they wanted. And um -- and once I identify that, I would look to make sure that I had a formula for that product. And if not, I would contact Dre and say Dre hey, you know, so and so just ordered and I need a formula for whatever he has ordered. And Dre would then work that up and e-mail it over to me. Um, after that, we would look to make sure that we had adequate stocks of ingredients to make that formula, and then production would begin to work it into the production schedule.

Q. Who supplies the ingredients that are used to make -- that Rangen uses to make the feed for National?

A. So some of the ingredients are supplied by Rangen

and those would be the standard ingredients that we would have in stock already for making our aquaculture feeds, and then National would provide the other ingredients.

Q. Okay. What do you mean the other ingredients, do you mean the ones that Rangen doesn't stock?

A. Correct.

Q. Okay. And how does Rangen distinguish between the ingredients that it uses to make its own feed, and the ingredients that it supplies to make feed for other companies?

A. It is identical. The ingredients we would use to make National Feeds are identical to the same ones we would use to make our fish needs.

Q. Okay. What steps does Rangen take to make sure that the ingredients that it supplies both to its own feed and to the feed that it makes for others are quality ingredients?

A. So that starts with identifying our suppliers and making sure that we're using suppliers that are -- are good suppliers and that are legitimate businesses. From there what we would do is we would identify ingredients that that supplier has that we're interested in, we would receive information on their ingredients specifically, and the purchasing agent would typically do a lot of this. And then once she received those specifications on the ingredients,

she would pass them onto me. I would look them over and make sure that they were consistent with ingredients we were looking for, and I might request a sample if I wanted to see kind of what that ingredient looked like. And then from there, I would -- once those -- if we did end up purchasing an ingredient from that supplier, when it came in we would do, you know, a thorough sampling of it and send it out for analysis to make sure that that ingredient met the specifications and appeared like it should.

Q. Once you go through that process of vetting a new supplier, is that the point where Rangen stops testing the ingredients that come in?

A. No. We have an ingredient analytical matrix that we use to make sure that we continue to analyze ingredients from all suppliers consistently to make sure that they're meeting the Rangen specifications.

Q. Now, are you aware of any industry standards that require a feed manufacturer to test fish meal for histamines?

A. No.

Q. And are there any industry standards that require a feed manufacturer to test fish meal for nitrosamines?

A. No.

Q. How about finished feed? Is there any standard that requires a feed manufacturer to test finished feed for

histamines?

A. No.

Q. And how about nitrosamines?

A. No.

Q. Okay. So in the -- after the testing -- moving on from the testing process, is that where the quality control for Rangen stops?

A. So from beyond the testing of the ingredients?

Q. Is there anything that Rangen does for purposes of quality control beyond just simply testing some of the ingredients?

A. No. I mean our quality control program then continues on into the manufacturing process. We educate and emphasize to our employees that they need to observe ingredients as they're being unloaded, that they -- when they're put into the grinding system they are observed and when they're being manufactured there is often a foreman there and a QA tech to observe the manufacturing process to make sure that the product that is coming out of the end of that manufacturing process and going into the bag is consistent with the specifications.

Q. How does Rangen typically receive the fish meal that it buys?

A. I would say that most of our fish meal comes in by rail, some by truck.

Q. So for the stuff that comes in by rail, is there a process that Rangen uses that lets it visually inspect almost the entirety of a load of fish meal?

A. So like I have mentioned, initially we have guys, people up on top of the car probing it with long sampling probes to get down off of the top of the car into the middle of it looking for any issues. And then we're unique in that at the Buell Feed Mill in that we unload into boxes. So every load of ingredient is unloaded into one ton metal boxes and that gives us an opportunity, with the guy that is unloading, to observe all of the meal coming off, all of the ingredient coming off of the truck or railcar.

Q. Okay. Were those same steps followed from the start of the testing process through the process you just described for the ingredients that were used to make the plaintiffs' feed in this case?

A. Yes.

Q. The specific form of feed that Rangen made for the plaintiffs in this case is called a crumlet. What is a crumlet?

A. So a crumlet is a feed that is produced on a compaction or a steam pellet mill. It starts off going through the die and coming out as a pellet and then we cool that pellet and then run it through a crumbler. And the crumbler is like two very large rolling pins that are seated

right next to each other and depending on how close you put those rolling pins together we crack that crumble and make what is called a crumlet.

Q. And once it goes through that rolling process, what is the consistency of the feed?

A. So it would be like course bread crumbs or Panko bread crumbs or something like that.

Q. And does Rangen --

THE COURT: Now might be a good time to give these folks a chance to go get something to eat.

MR. MITCHELL: Perfect. We'll let you have your lunch or breakfast. And remember what I told you. Come on back at 20 minutes after one and we'll get started right at 1:30. Appreciate your help. You may be excused.

THE CLERK: Please stand for the jury.

(Whereupon, the jury left the courtroom.)

THE COURT: Tell me how you're doing on your witnesses?

MR. HANCEY: Well, Your Honor, this is David Brock so as soon as he is done, we're going to move on to our economist Dr. Roberts. And I just want to -- I want to put on the record that we're going out of order than how we would prefer to put our witnesses on because National people are not available. We would prefer to finish with Dr. Roberts, but they're not here until tomorrow so we're

going to proceed with Dr. Roberts, the economist, and then we will have no more witnesses.

THE COURT: Okay.

MR. MINNOCK: Mr. Buscher and Dre Sanders have confirmed though will both -- Dre Sanders and Ed Buscher, the witnesses they want, will be here promptly at 9:30 tomorrow morning.

THE COURT: Tomorrow. Okay. And following them, what have you got lined up.

MR. MITCHELL: We'll likely have Dr. Wustenberg for Rangen and probably Mr. Hoffman for National.

MR. MINNOCK: Yeah, we're going to talk at lunch about which witnesses we intend to call and we'll have a better idea.

THE COURT: Okay. 1:30.

MR. MITCHELL: Thanks.

THE COURT: Thank you.

(Recess was taken at 12:09 p.m.)

(1:30 p.m.)

THE COURT: Let me just be clear on your proposed witnesses, counselor. As I understand it, you're interested after this witness in dealing with two additional so-called adverse witnesses.

MR. HANCEY: Yes.

THE COURT: And they're set to come in here tomorrow

at 9:30.

MR. MINNOCK: At 9:30 they'll be here.

THE COURT: Do you contemplate them being very long?

MR. HANCEY: No, Your Honor.

THE COURT: Brief. Are they National or are they Rangen?

MR. HANCEY: They are two National Feeds witnesses.

THE COURT: Okay. And you have got your -- you have got your economics professor.

MR. HANCEY: He is going to follow Mr. Brock.

THE COURT: Well yes, I was thinking you were lamenting the fact that you were changed in order and wanted to bring on the other two before you brought the good doctor on.

MR. HANCEY: Well, that is our preferred order of witnesses, it is not possible, and we're going to proceed the other way.

THE COURT: Okay. Now theoretically, you will be through after the good doctor absent possible rebuttal of some kind?

MR. HANCEY: We'll be through after the two National witnesses.

THE COURT: But if the order is as you preferred, after the doctor?

MR. HANCEY: Yes, correct.

THE COURT: Okay. Now, is the doctor long-winded or is he short?

MR. HANCEY: That is a great question. I think that the direct examination of Dr. Roberts will be -- it is hard to predict, but I would say about an hour.

THE COURT: Okay. Now, how are you fellows doing on your instruction requests?

MR. HANCEY: I think that we actually got that resolved. I know that Allison put in a lot of time to clean up the titles and also put citations at the bottom of each one so we have a new set. Has it been filed yet?

MR. MINNOCK: This has not been e-filed. I asked them not to e-file it until it met as to your approval as to how you want your format. I haven't looked through these, they just came this morning. But my understanding is that Ms. Fletcher is overseeing that.

THE COURT: Well, now, two short witnesses plus the good doctor, okay.

MR. HANCEY: Correct.

THE COURT: Now tell me who you have got?

MR. MINNOCK: Right now we anticipate calling Dr. William Wustenberg, who is a viability expert. We also have plans to call two -- we have on our witness list two toxicologists and two accounting experts.

THE COURT: Okay.

MR. MINNOCK: Now depending upon how the testimony goes, we may shorten those witnesses or eliminate them.

THE COURT: Well, I'm just trying to figure out timing.

MR. MINNOCK: We anticipate all witnesses being done with the exception Patricia Talcot can't be here -- one witness can't get here until Tuesday morning. But other than that, we anticipate completing all evidence by Friday afternoon.

THE COURT: Uh-huh (affirmative).

MR. MITCHELL: She can't be here until Tuesday morning.

THE COURT: Well, I thought of this as a possibility, and because of the lamentations concerning order, if we let you finish up with him today depends, and you wanted to proceed as you had originally planned, that we could let these folks go home a little early today and let you proceed tomorrow and that would give you a chance, for whatever reason, of examining your own requests and give me a chance also and my staff and plow ahead and ostensibly get everything done by way of evidence Friday and spill over briefly Tuesday morning. If we're then in a position to move ahead, we could maybe deal with instruction conferences Tuesday afternoon and let you argue Wednesday. But that is just thinking about it. But I didn't want to do that if it

is your preference to go ahead today with the good doctor.

MR. HANCEY: I'm sorry, just give me one minute with my colleague. Your Honor, we're inclined to go forward with Dr. Roberts as per our plan B if everybody is in agreement with that.

THE COURT: So you will bring him on this afternoon?

MR. HANCEY: Immediately following this witness.

THE COURT: Oh, that is fine. That is fine. I just wanted to be helpful.

MR. MERCER: We appreciate that very much, Your Honor.

MR. HANCEY: Thank you, yes.

THE COURT: Okay. Let's bring the jury in.

MR. MINNOCK: Your Honor, I have additional copies if you would like. They brought me like 10.

THE COURT: I'm sorry?

MR. MINNOCK: I have additional copies of these instructions requests if you would like.

THE COURT: The fewer the better.

MR. MINNOCK: They brought me 10. I don't know why, but they did.

THE CLERK: Please stand for the jury.

(Whereupon, the jury returned to the courtroom.)

THE COURT: Again, thanks, folks, sit down and relax. And it looks like everybody is here. The record will so show the jury is present, the counsel, and parties.

And counselor, you may proceed.

MR. MITCHELL: Thank you, Your Honor.

Q. (By Mr. Mitchell) Mr. Brock, right before we broke for lunch, we had just finished talking about what a crumlet is. Do you recall that?

A. Yes.

Q. Okay. Does Rangen make a crumlet itself for its own label?

A. We make something that we call a crumble which is manufactured in a similar way but sized slightly differently.

Q. And what is the difference in process between a crumble and a crumlet?

A. They're exactly the same except that we, subsequent to crumbling it, we run it over a series of, the Rangen product, over a series of screens to further define the size. We have crumbles sized from number zero up through number four.

Q. Kind of like sifting the crumble down to a certain size?

A. Correct.

Q. Okay. What is the process that Rangen goes through to make crumlets and crumbles up to that point?

A. So up until that point what we would do is the foreman would produce a mix sheet and give it to the mixer

man.

Q. How does he produce a mix sheet?

A. So the process there would be that I would see on the schedule for a specific day that they are needing a mix sheet for a certain product and the certain number of pounds and I would send that off my formulation system to a system that they can produce a mix sheet like this (indicating).

Q. Okay. Would you take a look at Exhibit 36 in your book, please. Are you there?

A. Yes.

Q. Okay. What is Exhibit 36?

A. So Exhibit 36 is a mix sheet for mink lactation crumlets.

Q. Is it for the lactation crumlets in this case?

A. Yes.

Q. So as we look at Exhibit 36, what is the information that we see up here in the header?

A. So at the top would be information on the name of the diet, oh some numbers associated with what we call the work order. When a mix sheet is produced it also goes along with a work order to account for putting the product back into inventory, that kind of thing, and relieving the ingredients.

Q. What do you mean when you say relieving the ingredients?

A. So in order to keep track of the amount of ingredients we have on site, you know when ingredients come in we put them into inventory and so if a, you know, a truckload of fish meal comes in, we put in 50,000 pounds into inventory and in order to track inventory, we need to take that out of inventory when we use it.

Q. Okay.

A. A certain amount.

Q. So as we move down below the header here to the body of the mix sheet, walk us through line-by-line what it is, the information that we're looking at here?

A. Okay. So this is the list of the ingredients at the top that we would kind of call the major ingredients.

Q. Is that what shows up here underneath the description category?

A. Yes. So that describes the name of the ingredient and then to the right of that is the batch quantity of the ingredient, that is how much we put in the mix, and then to the right of that is what we call the cumulative quantity.

Q. And what is the cumulative quantity?

A. So when we do our major ingredients they go -- they are dropped from ingredient bins into a large hopper that sits above the mixer. And this large hopper would be like a large mixing bowl but it is on load cells or scales.

And so that it can accumulate major ingredients in that. So if we added 100 pounds of fish meal and then 100 pounds of corn, that cumulative number out to the right would be 200 after the corn.

Q. And then I see out here at the far column some checks and Xs. What are those?

A. So those represent when a mixer man puts that ingredient into the mix, he will -- he will mark that, that it was added, that ingredient.

Q. Why are there five columns on this first page of the mix sheet?

A. So that means that we made five mixes.

Q. On this side. And then there is two pages to this particular mix sheet, correct?

A. Right. And so there was another three mixes made on the second mix sheet.

Q. That is why we're seeing the three columns of Xs here?

A. Yes.

Q. Okay. And now you talked about the major ingredients being kind of in this upper category here (indicating) looks -- it is the --

A. Actually the top five.

Q. Top five?

A. -- are what we consider majors.

Q. And what is a major ingredient for Rangen?

A. So that would be fish meal, corn, poultry meal, blood meal.

Q. What causes Rangen to classify a particular ingredient as a major ingredient versus a minor ingredient?

A. The amount that is added to the mix, and if it is typically added in through the bin system or if it is scooped in, we usually consider that more of a minor ingredient.

Q. Okay. So is that the second grouping of ingredients that we see on the mix sheet?

A. Second and third.

Q. Second and third both, okay. And who supplies the major ingredients?

A. So the first one is the sardine meal and that would be a Rangen supplied.

Q. Okay.

A. So the second ingredient is blood meal and that would be Rangen supplied. The third ingredient is corn and that would be Rangen supplied. And the fourth ingredient is menhaden fish meal and that would be Rangen supplied. And the fifth ingredient would be beet shreds and that is Rangen supplied.

Q. So at least on this mix sheet Rangen supplied all of the major ingredients?

A. Yes, that is correct.

Q. Did Rangen supply any of the minor ingredients?

A. So if you will remember the first ingredient was the Vitamin C that Rangen developed, so that is -- that is a Rangen ingredient.

Q. That is the Stay-C here on number six?

A. Right.

Q. That is S-T-A-Y hyphen C?

A. Yup. Rangen would provide the biotin.

Q. What is biotin?

A. That is a vitamin pre-mix.

Q. Okay.

A. Supplies a vitamin called biotin.

Q. How about the next items on the list?

A. So the next -- the next three are supplied by National.

Q. What are those three?

A. So there is vitamin -- or there is the first one is called 4X mineral that is a mineral premix. The next one is 500 mineral supplied by National, and then the next one is a vitamin and mineral combination provided -- supplied by National.

Q. Who supplies the skim milk and the dried egg?

A. National.

Q. Okay. And what about the last grouping of the

minor ingredients?

A. All right, so that would again be the first one is National.

Q. What is the first one?

A. Premix, it looks like 95785, it is a National ingredient.

Q. Okay. And how about the second one?

A. The second one is a binder that helps kind of glue it all together and that is provided by Rangen.

Q. Okay.

A. And the third one is salt, and that is -- that is provided by Rangen. The fourth one is liver meal and that is provided by National.

Q. Okay. And it looks like there is some poultry fat and poultry spray added later on?

A. Correct.

Q. And who supplies those?

A. Rangen.

Q. So once this mix sheet is generated, who does it go to?

A. So the foreman will generate it and he will take it down to the mixer man.

Q. How is it generated?

A. It comes off my formulation system into another -- AD or JD Edwards Software System that converts it into

this format.

Q. Okay. And so the -- it gets generated and then taken where?

A. Down to the mix -- the mixer man in the mixing room.

Q. And what does the mixer man do with the mix sheet?

A. So the mixer man -- the first thing he would do is probably look down the mix sheet and see what ingredients he needs to go get in the various warehouses that Rangen has in order to make this mix. And so he and maybe some helpers or the foreman would go accumulate those ingredients in front of the mixer that weren't majors and that weren't already there.

Q. So he is going to look for any minor ingredients that he needs to gather to put into the mix?

A. Correct.

Q. What -- describe that process for me?

A. So the -- all of the mink ingredients are stored in a certain place in an individual warehouse, and so he would go over there and look down through here and say, you know, which of the National provided ingredients do I need to get over there, and then he would go get them and bring them back.

Q. And what about the Rangen supplied ingredients?

A. Again, depending on if those were right by the mixer, he would -- nothing would have to happen there but some of them he might have to go, you know, go get.

Q. Does he measure the quantity of the ingredients that he is gathering?

A. Usually he will estimate how many he needs for the mixes he is making in that day, and then go get, if they're in 50-pound bags, he'll make sure that he gets that amount or more.

Q. Okay. And so once he gathers all of the ingredients together, does he move them kind of to a central location then?

A. Right. So they're accumulated right in front of the mixer, and other ingredients are moved out of the way so it is only the mink ingredients, you know, in there when he is making the mixes.

Q. And when he has all of the ingredients assembled for the batches that he is going to be doing, what is the next step in the process?

A. So the next step would be to start dropping the -- he would drop the majors.

Q. How does that process work?

A. So again, like on the sardine, he would add 1,330 pounds into that accumulator container on top of the mixer.

Q. How does he add those 1,330 pounds?

A. So that is a computer-controlled, you know, mixing system in that he would type in how many pounds of that ingredient he wanted and he would push a button to release it from the bin and it would start accumulating. And once it hit 1,330, it would shut it off.

Q. Okay. And does he go through that same process with all of the major ingredients then?

A. That is correct.

Q. And then how are -- how does he handle the minor ingredients?

A. So then out in front of the mixer he would begin weighing those up individually just using a scoop and a scale.

Q. Okay. And once those are measured out, what happens to the -- what is the next step in the process?

A. So those go into a micro-hopper that on the side of the mixer which eventually would convey them up into the mixer. And once those are all accumulated there in the micro-hopper, he would begin dropping the major ingredients into the mixer.

Q. How does he do that?

A. Basically he tells that bowl up on top of the mixer to open up and start discharging into the -- into the mixer.

Q. How does the bowl above the mixer know what to

do?

A. So at least initially I mean there is -- there is a -- I believe there is a button that he has to push to tell the -- to tell it that he is ready to go and then it -- the computer takes over from there.

Q. Okay. And what kinds of things does the computer control?

A. It controls how long the mix is mixed and then some liquid additions.

Q. How about does it control when ingredients are added?

A. Yes. So what happens is he cannot start adding the micro ingredients until a certain amount of the major ingredients have been added to ensure that, you know, they end up in the mash and get mixed up well.

Q. And so once -- you just referred to a mash. What is the mash?

A. So mash refers to what we're building here. So once we're done mixing all of these things together, it would kind of be like once you have completed mixing a cake, everything is mixed together, and then we're ready to send it off to, in our case, the mill or put it in the oven.

Q. Okay. And what is -- how does it get from the -- the mixer to the mill?

A. So once everything is mixed up in the mixer, then

the mixer man opens the discharge port and begins to go out through a series of conveyors and augers up into a bin that sits above the mill.

Q. Before we leave the mixer, does Rangen do anything to make sure that it achieves a thorough mix of the feed that it prepares?

A. Yes. So we have what we call a mixer test that we perform twice a year to ensure that the ingredients that we are adding to the mix get mixed up well. And what that involves is we take a standard mix and we add some salt to it, just like we were adding one of these micro ingredients, and let it mix the computer controlled amount of time and then we sample it ten times as that mix is leaving the mixer.

We take those samples down to our research facility, our lab at our research facility, and those are analyzed for salt, and then we come up with what is called a coefficient of variation to see what concentration they -- that varies and that tells us how well it is mixing.

Q. And what is the -- you called it a coefficient of variation?

A. Yes.

Q. Yes?

A. Yes.

Q. What is a coefficient of variation?

A. That tells you how much each of these -- so if you have ten numbers, we have ten salt analysis that we did, the coefficient of variation tells you how much variability there is in those numbers.

Q. And is there a target within the feed industry for that coefficient?

A. It is 10 percent or less.

Q. Okay. And did Rangen go through those -- that testing process for its mixer in 2010?

A. Yes, it did.

Q. Do you recall what the results were for those tests?

A. I think they were ones and twos.

Q. Okay. And when you say ones and twos, is that one percent to two percent?

A. One percent, two percent, yup.

Q. Okay. So we are moving from the mixer through the conveyor system up into a bin that sits above the pellet mill, I think that is where we left our story. Now when it is -- how does it get from the bin above the pellet mill down into the pellet mill itself?

A. So it is a gravity fed bin designed to feed a pellet mill and so it feeds gravity-wise into an auger that then feeds what we call a pre-conditioner before the pellet mill and the pre-conditioner injects steam into the mash to

heat it and then from there it enters the pellet mill.

Q. What does the pellet mill do?

A. So the pellet mill -- this mash that has been steam injected now is very hot. And what we have on the pellet mill is a die that the die is about two and a half feet high and it is open in the middle and imagine this die having an edge on it that has a whole bunch of holes in it.

And what happens is when it is set up on a pellet mill, the mash comes in the front of the die and there are rollers that contact the mash and push it through the holes basically.

Q. And once the mash gets pushed into those holes, what happens to the mash?

A. So then it gets -- it experiences a lot of pressure there and a lot of compaction and it compacts the mash into a pellet. The starch is, because it has been semi-cooked, is now sticky and it kind of holds that everything else together in the pellet and you come out with a pellet, you know, maybe about the size of a diameter of a pencil or something like that.

Q. Okay. And once it goes through that process, where do the pellets go?

A. Okay. Then they go up into a cooler and the cooler is designed to hold onto those pellets, they're kind of hot, they have got some moisture coming off of them, and

they need to reside in the cooler for about 20 minutes where we're pulling just ambient air through the feed and cooling it off, and that kind of sets the pellets up to be kind of hard.

Q. Once they get cooled down to -- once they get cooled down, where do they go then?

A. So if we're going to make a crumlet, then that is when they get crunched up at the bottom of the cooler by the crumbler and then from there they would go to an oiler bin.

Q. And what happens in the oiler bin?

A. So in the oiler bin, they accumulate in this oiler bin until it fills up to a certain point, and then that trips a switch that then discharges into the spray sprayers and we spray oil on top of them.

Q. Okay. Once the oil gets sprayed on the crumlets, what is the next step in the process?

A. Then they get transported into an area where we will put them into bags. There is another hopper there that accumulates the feed and it has got a bagging scale on it, and the mill worker will hang a bag on it, and the scale on the bin weighs out 50 pounds of product and then that drops down onto a little conveyor, he puts a tag on it, sews it, stacks it on a pallet.

Q. What steps does Rangen take during -- throughout that process to make sure that the feed it's making for

National is a quality feed?

A. So through that process there will be a pellet mill operator standing there looking to make sure we're making good pellets, that they're holding together well, um, then we will crumble them and then when that finished feed comes out into the bag, when we're starting up the run we'll have the foreman and a quality control technician there to observe it and make sure that it, you know, looks like it is supposed to and will take some samples there to make sure the moisture content is in line with what we expect and check out any other quality parameters at that time.

Q. Okay. Do the quality control procedures that Rangen uses from the point where it -- from the ingredient point all the way through the finished feed point meet industry standards for feed millers?

A. Yes.

Q. How does Rangen charge National when it makes feed for National?

A. So what we do is we provide every couple of months we provide a price for the ingredients for their mixes. And so, you know, we take the price for all of the ingredients you saw on the mix sheet that are Rangen provided. We give them the price that -- for those ingredients and we send them that price every couple of months.

And so then when it comes time to bill National, we bill them at that price and then any milling number, the costs for running it through the mill, and then we will also bill them freight on that if we set up the load to be delivered.

Q. For the ingredients that National reimburses Rangen, does Rangen charge anything above its cost of the ingredients?

A. No.

Q. In the 24 years that you have worked at Rangen, to your knowledge has Rangen ever purchased fish meal preserved with nitrites?

A. No.

MR. MERCER: Objection foundation.

THE COURT: Well, the answer can remain. To his knowledge, whatever his knowledge is.

MR. MITCHELL: Thank you, Judge.

Q. (By Mr. Mitchell) To your knowledge, in the 24 years that you have worked at Rangen, what is the preservative that has been used in the fish meal that Rangen does purchase?

MR. MERCER: Objection foundation and request voir dire.

THE COURT: Well, we'll let him go ahead and the objection is overruled at this point, but you perhaps ought

to rephrase and demonstrate his specific knowledge in that specific area.

MR. MITCHELL: Certainly.

Q. (By Mr. Mitchell) Mr. Brock, do you have -- you participate in the purchasing of fish meal at Rangen; correct?

A. That is correct.

Q. And you have done that since you became the nutritionist for the aquaculture division at Rangen?

A. Yes.

Q. That was 19 years ago?

A. 20.

Q. 20 years ago, pushing 20 years, 19 or 20 years?

A. Yes.

Q. Okay. So in that period of time and in that context, have you spoken with vendors or seen materials from vendors concerning the ingredients that Rangen is buying?

A. Oh, yes.

Q. That would include fish meal?

A. Yes.

Q. And are you familiar in that context and in your role and experience as someone who participates in the purchasing of bulk fish meal with the industry standards for the preservation of fish meal?

A. Yes.

Q. And what is that industry standard?
A. Ethoxyquin.
MR. MERCER: Objection, nonresponsive. Move to strike. Lack of foundation. Best evidence rule.
THE COURT: Well, demonstrate his knowledge or the source of his knowledge.
MR. MERCER: You asked what is that standard and my objection --
MR. MITCHELL: We have walked through his -- we have walked through --
Q. (By Mr. Mitchell) You have got 19 years of experience in purchasing fish meal?
A. Yes.
THE COURT: Talking about a standard. The question related to standard.
Q. (By Mr. Mitchell) Got it. Okay. Let me come at it to you this way.
Have you inquired of vendors from which Rangen purchases fish meal concerning what they use to preserve the fish meal that they sell?
A. Yes.
Q. And have you ever heard one of those vendors indicate that they use nitrites to preserve fish meal?
MR. MERCER: Objection.
THE WITNESS: No.

MR. MERCER: Hearsay.

THE COURT: I'll sustain the objection.

Q. (By Mr. Mitchell) And have you -- have any of those vendors ever indicated to you that they use anything other than ethoxyquin to preserve their fish meal?

MR. MERCER: Objection, facts not in evidence. Move to strike.

THE COURT: I'll sustain the objection.

MR. MITCHELL: Your Honor, it is not being offered for --

THE COURT: You might have him tell us what the make up of the fish meal is, as far as he knows.

MR. MITCHELL: Okay.

THE COURT: If there is a consistency with the ingredients, what are the ingredients.

MR. MITCHELL: Certainly.

Q. (By Mr. Mitchell) Are you familiar with how fish meal is made?

A. Yes.

Q. Okay. Walk us through the process.

MR. MERCER: Objection, request voir dire again on this subject.

THE COURT: Well, you'll have a chance to cross. So move on. Put your questions.

Q. (By Mr. Mitchell) What is the process by which

fish meal is made?

A. So --

MR. MERCER: Objection foundation.

THE COURT: Go ahead, overruled.

THE WITNESS: So fish meal is made by companies that typically own boats and they have a land base processing plant and the boats then go out from their processing plant and usually using the same sometimes a troll capture fish that are in schools. And then they will bring these fish into the hull of the boat which in modern times are typically refrigerated to keep them cool, and then once they have a load they -- and they only stay out, you know, less than a day to preserve freshness, they will then come into the plant and they will pump those fish into large cookers, and they will cook them for a prescribed period of time. And then the next step is to run them through a press where they're able to separate the cooked -- the pieces from the liquid, there is a lot of water in there and a lot of oil. And so they move the oil and water off into one stream and the dry, I think they call it presscake, into another stream. The presscake will go through a dryer and those are usually low temperature dryers to preserve the quality of the protein. And then once that happens, then they'll go into a bin and prior to packaging they will spray antioxidant on them. The fish meal plants I have seen they

were --

MR. MERCER: Objection foundation.

THE COURT: Overruled. Go ahead.

THE WITNESS: Were spraying ethoxyquin, liquid ethoxyquin onto them. The other -- so that is how they make the meal and then the water and the oil line are run through a centrifuge because oil and water are different densities, they spin off the oil and that becomes fish oil, and then the water sometimes they add it back onto the meal, and other times they just discard it.

THE COURT: Do they grind it up?

THE WITNESS: Um, because they have cooked it and run it through some screws and stuff like that, it is fairly fine, but oft times they'll have a hammer mill on the end of the process line to grind it, grind it finer, yes.

THE COURT: They press it into cakes or something?

THE WITNESS: They call that presscake because it is coming out of the cooker in a kind of a wet fashion that when they put a lot of pressure on it, it turns into a cake. But when we get it, it is kind of like it is a fine flowable, flowable meal.

THE COURT: It is granular?

THE WITNESS: Yes.

Q. (By Mr. Mitchell) Mr. Brock, did any of Rangen's manufacturing activities take place in Utah?

A. No.

Q. And when the feed was delivered, where was it delivered?

A. To the Griffeth farm.

Q. And where is the Griffeth farm located?

A. In Preston, Idaho.

Q. Preston, Idaho.

MR. MITCHELL: Thank you. No further questions.

REDIRECT EXAMINATION

BY MR. MERCER:

Q. Mr. Brock, in your lengthy explanation about how fish meal is manufactured you referred, I believe, to the ones I have seen; is that correct?

A. That is part of my experience with antioxidants, yes.

Q. But you have never seen fish meal being made, have you?

A. Actually since my deposition I have been to a fish meal plant and seen it being made.

Q. Oh, but up until your deposition when you said you have never seen fish meal being made, you hadn't?

A. That is correct.

Q. This is some recent visit to a fish meal manufacturer?

A. Yes.

Q. Where was that?
A. In Mexico.
Q. And when did you go to Mexico to watch this?
A. So it would have been the March time frame last year, 2013.
Q. March of 2013. Did Rangen send you?
A. Yes.
Q. They paid you to go watch fish meal being made in March of 2013?
A. Actual, we had received an invite from a fish meal manufacturer down there that wanted us to come see him, how he made fish meal.
Q. What was the name of that manufacturer?
A. So the supplier was Atlantic Commodities, I misspoke, Atlantic Commodities is somebody we buy fish meal through. They invited us to come see one of the plants down in Mexico.
Q. So Rangen buys fish meal from Atlantic Commodities which is located in Mexico?
A. No, they're a broker in the United States.
Q. They're a broker. So they're not the fish meal manufacturer, they're just a broker of fish meal?
A. Correct.
Q. And they invited you -- so they're just a broker. How did they invite you to -- did they invite you to the

brokerage?

A. No, then they have a -- they have a producer down there that is making fish meal that they wanted us to see.

Q. So they invited you down to one of their clients, a producer of fish meal, to look at that producer's facility?

A. Correct.

Q. So you were not there at the invitation of the actual producer, just the broker?

A. I actually think he and the manufacturer decided that they had made some upgrades in their plant and they wanted to promote it as being new and they were using some new techniques to make the fish meal and they wanted to have some of their customers see it.

Q. So they had upgraded since 2010?

A. I suspect they were in the process of upgrade during that time. I am not sure of the total duration of how long it took them to make the entire upgrade.

Q. And this is the only opportunity you have ever had to see fish meal be made?

A. It is the only time I have seen it. I have had other invites that I was not able to take them up on.

Q. And so was this the same producer from whom Rangen got its fish meal in 2010?

A. I would have to look at the documents to see if

that was the case or not.

Q. Where are those documents, by the way?

A. Well, there is some documents on analytical information here.

Q. Perhaps you could show them to me. You're telling me there is a document about the fish meal that Rangen purchased to put into the Kent Griffeth lactation crumlet order? Because I have never seen that document. I would like you to show it to me.

A. I'm not sure how everything is organized here, but if you know where in this book the analytical charts are for the fish meal, I can show you the information you seek.

Q. There aren't any. But you're telling me, and this is very interesting to know, that there are documents about the fish meal that Rangen purchased for the Kent Griffeth lactation order in March of 2010, correct?

A. I believe so.

Q. You have just never been able to find them. Is that why we don't have them?

A. No. I was under the impression that we provided all of that information in discovery.

Q. To whom did you give these documents?

A. I would assume -- I mean Hans. I would think that we gave it to our counsel.

Q. Mr. Mitchell? Is that the Hans you mean?

A. Yeah.

Q. What do those documents say?

A. The one I'm looking for is an analytical summary that shows what the protein and fat was on fish meals that Rangen had received.

Q. I think you also told Mr. Mitchell that you had run test results on the fish meal you received. Where are the test results from the -- from Rangen's tests on the fish meal that it used?

A. Well, I thought they were in this packet somewhere.

Q. You probably couldn't find them in there.

A. Well, I mean there is --

THE COURT: Why don't we take a moment, folks, and let me give you an early recess here briefly. Ten minutes. Go enjoy a drink or a snack or something. Remember what I told you.

(Whereupon, the jury left the courtroom.)

THE COURT: And counsel, why don't you take a minute and help the witness find the documents.

MR. MITCHELL: There is nothing in the exhibit book, Your Honor.

THE COURT: I'm sorry?

MR. MITCHELL: The documents that he is referencing are not in the exhibit book, they are not an exhibit in this

matter.

THE COURT: Well, are they available?

MR. MITCHELL: That I don't know. I will -- I brought my file, I'll look and see if I have got them in my file.

THE COURT: All right. Well, let's take 10 minutes and have you look rather than spar back and forth here. If there is a document that is interesting, let's find it.

(Recess was taken from 2:23 p.m. to 2:40 p.m.)

THE COURT: Did you find what you're looking for?

MR. MERCER: Found one, not the other.

THE COURT: I'm sorry?

MR. MERCER: We found one, one document, not the other.

THE COURT: Okay. Is there another?

MR. MITCHELL: Your Honor, there may well be another, it is not here with my file.

THE COURT: Okay. But you're ready to go ahead?

MR. MERCER: We're ready.

THE COURT: Okay, bring the jury in.

THE CLERK: Please stand for the jury.

(Whereupon, the jury returned to the courtroom.)

THE COURT: Again, relax, folks. Take heart, we're getting there.

Counselor, you go ahead. The jury is present, counsel and the parties present.

MR. MERCER: Thank you, Your Honor.

Q. (By Mr. Mercer) Mr. Brock, prior to the break we were trying to find a couple of documents. One was the specification sheet you told us you received with the fish meal that you used in the lactation crumlets in this case. Were you able to find that document?

A. I don't believe I ever said that I received a specification sheet on the fish meal. I said that I had -- I knew the supplier of the fish meal from some documents that I had discussed in my deposition.

Q. Oh, so when the fish meal comes on the freight car, it comes with no specifications?

A. What do you mean by specifications?

Q. Um, any information on what is in there?

A. I don't see all of those, all of that paperwork of all of the loads, but I have seen some of them.

Q. But, in fact, in this case we don't have any of that information on the fish meal you purchased from an outside source that was used for the crumlets in this case, correct?

A. I don't know.

Q. Now we were also looking for test results conducted by Rangen on fish meal. And you were able to find those, is that right, during the break?

A. You were able to find them, yes.

Q. Well, so when your deposition was taken, you were asked about Exhibit 98 which is now in front of you?
A. Correct.
Q. Is that the document --
A. Yes.
Q. -- you were referring to?
A. Yes.
Q. What is that we're looking at?
A. What this is is a summary --
Q. Just tell me -- let me ask you this first. Whose handwriting is that?
A. Um, I believe it would be an administrative staff person probably by the name of Cheryl Herzinger. She would input these from the analytical reports into this file.
Q. What did you have to do with that document?
A. So when I review the analyticals as they come in from the lab, and then she puts them into this book that I will then when we go to use meal for making feed I will reference what these -- this analytical information to use in my formulations.
Q. You mentioned while you have been talking to us today that Rangen kept a sample from the lactation crumlets in this case; is that right?
A. Yes.
Q. Does Rangen still have it?

A. I turned that over to Mr. Hans Mitchell.
Q. And he has it now?
A. I don't know.
Q. Do you know if he has ever produced it to anyone in this case?
A. I don't know.
Q. Do you know if it has ever been tested?
A. I don't know.
Q. You don't know if it has or hasn't?
A. I don't.
Q. All you know is that --
MR. MITCHELL: Your Honor, I have to object to the line of questioning. We offered to submit the sample for testing to --
MR. MERCER: Objection. Not his testimony.
THE COURT: We'll deal with this matter and the court but if -- you still have it?
MR. MITCHELL: Yes, it is still in our possession.
THE COURT: Okay. Let's move on.
Q. (By Mr. Mercer) You mentioned a couple of times when you were talking to Mr. Mitchell, or at least one time you mentioned that these crumlets went into the oven; is that right?
A. No, cooler.
Q. Well, didn't you mention an oven and at one point

you say semi-cooked?

A. That was the pellet mill.

Q. Pellet mill. So you weren't talking about the lactation crumlets in this case? Do the lactation crumlets in this case go into an oven?

A. No, I don't recall having said an oven. If I did, I misspoke.

Q. Did you say they had to be cooled?

A. Yes.

Q. Why do they have to be cooled?

A. Because in the manufacturing process that I described, I mentioned that there was steam and heat generated in order to cook the starch and what we call condition the mash. When that is then run through the die, there is added temperature that occur -- that the temperature of the mash increases a little bit further up to over 200 degrees and so the combination of that temperature and the steam that is input into the mash then needs to be cooled down and the steam needs to dissipate.

Q. So the crumlets do get up to at least 200 degrees during the process?

A. Right.

Q. Also, while you were going through this entire process of producing these crumlets, I don't recall you ever mentioning anything about cleaning or sanitation. Is that

right, you never mentioned that?

A. I don't believe so.

Q. Is formaldehyde ever used as a preservative in fish meal?

A. No.

Q. You're sure it is never used?

A. My experience indicates that it is not.

Q. So you wouldn't have any idea why it would -- might show up in a test result done on the crumlets in this case?

A. No.

Q. Mr. Mitchell asked you if Rangen has ever received any complaints from any other customer about histamines or nitrosamines. Do you recall that?

MR. MITCHELL: Your Honor, I believe that misstates my question.

THE COURT: Well, why don't you just put your direct question.

Q. (By Mr. Mercer) Has Rangen ever received any complaints from any customers about histamines to your knowledge?

A. Not prior to this case, no.

Q. How about nitrosamines?

A. No.

Q. Has Rangen received any complaints from any

customers about mink lactation crumlets generally?

A. What do you mean generally? I mean other complaints?

Q. Yes.

A. I believe there was one with Mr. Griffeth and that would be all I can recall.

Q. Duane Weeks?

MR. MITCHELL: Objection, Judge.

THE WITNESS: I don't --

MR. MERCER: Opened up.

THE WITNESS: I don't recall Mr. Weeks ever feeding crumlets.

Q. (By Mr. Mercer) So you don't recall a complaint about lactation crumlets from Duane Weeks against Rangen?

A. No, I do not.

Q. The Stembridges?

MR. MITCHELL: Objection, Judge.

THE COURT: Well, he is just asking if he knows.

THE WITNESS: Not a specific complaint, no.

Q. (By Mr. Mercer) Well --

A. I mean Lee --

Q. What kind of complaint?

A. Not specifically from the Stembridges, no.

Q. Well you said not specifically, what do you mean?

THE COURT: Why don't we deal with the substance.

Let's move on.

MR. MERCER: No other questions.

THE COURT: Anybody else?

MR. MITCHELL: Can this witness be excused, Judge?

THE COURT: Well, we'll talk about that, but at this point he may step down.

MR. MITCHELL: Thank you.

THE COURT: He has been your designated representative, hasn't he?

MR. MITCHELL: He has, judge.

THE COURT: Okay. Well, let's use him as your designated representative. And your next witness?

MR. HANCEY: Dr. Wade Roberts, Your Honor.

THE COURT: Sir, if you will come forward and be sworn.

THE CLERK: Please raise your right arm.

WADE ROBERTS,

called as a witness at the request of the Plaintiff, having been first duly sworn, was examined and testified as follows:

THE WITNESS: I do.

THE CLERK: Thank you. Have a seat right over here, please. And can you state your name and spell your name for the record, please.

THE WITNESS: Yes. My name is Wade Roberts, W-A-D-E

R-O-B-E-R-T-S.

DIRECT EXAMINATION

BY MR. HANCEY:

Q. Dr. Roberts, good afternoon. Can you tell the jury where you grew up, please?

A. Yes, I grew up in Utah. In California, mostly Utah.

Q. Were you currently reside?

A. In Syracuse, Utah.

Q. Are you married?

A. Yes, I am.

Q. Do you have children?

A. Yes. I have got a six-year old boy in first grade, and I have got boy/girl twins that are four.

Q. Are they a handful?

A. Yes. Going from one to three was quite the change.

Q. Where did you attend college?

A. University of Utah.

Q. Okay. And what degrees do you hold, Dr. Roberts?

A. I have a bachelor's in economics and business and a PhD in economics.

Q. When did you earn those degrees and from where?

A. I earned my bachelor's in 2004 from the U, and I also earned my PhD from the U in 2009.

Q. And you mentioned both of those degrees are in economics?

A. That is correct.

Q. Where are you currently employed?

A. Western Governors University.

Q. What is your position there?

A. Professor of economics.

Q. How long have you been a professor of economics for that university?

A. For Western Governors I was hired in October of 2012.

Q. Do you teach classes for Western Governors?

A. Yes, I do.

Q. What classes do you teach?

A. I teach the micro/macro series, the global business, the quantitative analysis. I also teach in the MBA program the global economics courses.

Q. Have you done any other teaching in the field of economics?

A. Yes.

Q. Where?

A. I have taught more than a dozen economics and MBA courses at the University of Utah, at Westminster College, and also at Weber State University.

Q. And how long have you been doing teaching or

lecturing on economics?

A. I guess 2006 while I was concurrently doing my graduate degree I started teaching as an adjunct at the U and that continued through 2012. I taught from 2010 to 2012 at Westminster College, and then for just a year, in 2010, I believe, at Weber State University in Ogden.

Q. Okay. Are you a member of any professional organizations?

A. Yes, I am.

Q. Tell us about those?

A. I am a member of the World Economics Association specifically the Vietnamese National Chapter. I am also a member of the AEA, the American Economic Association. I am a member of the National Association for Business Economists. And then also -- let's see what else is there, Geneva International Convention for Humanitarian Demining which deals with economics in this case.

Q. Okay. Have you received any honors or other professional recognitions in economics?

A. Yes. I was recognized for my development work in Cambodia by international organizations. I also got professor of the year award last year at Western Governors, my first year there. Among --

Q. You managed to make the subject of economics interesting?

A. I don't know about that.

Q. All right. Have you contributed to any academic texts in the field of economics?

A. Yes.

Q. Which ones?

A. I was recognized as a major contributor to George Borjas Fifth Edition of his *Labor Economics* text.

Q. Is that book used as a school textbook?

A. Oh yeah, it is the major one used in universities.

Q. Have you published any other articles or books related to economics?

A. I published a book with Cambria Press in 2011 titled *Landmines in Cambodia: Past, Present, and Future* which was an economic work.

Q. Now, have you previously served as an expert witness in a court of law, Dr. Roberts?

A. Yes, I have.

Q. How many times?

A. Three times in the U.S., four or five in Cambodia.

Q. Were you asked to serve as an expert economist on any of those occasions?

A. Yeah, each one.

Q. Were you asked to calculate economic damages in

those cases?

A. Yeah, on all about but one.

Q. Is calculating damages something you typically do as an economist?

A. Certainly.

Q. Do you think economics has application in this particular case involving mink?

A. Yeah, most definitely.

Q. Why?

A. Economics is a social science that is equipped with various tools in which we can observe the full impact of an effect. So the effect to something where I would say there is a business disruption beyond just looking at something like how costs or revenues fluctuate you can also incorporate opportunity costs and growth rates. You're able to bring in information about adjustments for inflation in an effort to capture everything with respect to that action.

Q. Could you explain to the jury the questions I asked you to investigate for purposes of this case?

A. Yes, sir.

Q. What are they?

A. You asked me to determine whether or not damage had occurred to the Jonssons following the feeding of crumlets in 2010. And if so, if I did indeed find damage, you asked me to quantify that in monetary terms.

Q. What types of materials did you utilize or rely on in the course of your investigation into those two issues?

A. I started with an academic literature review delving into the details of in connection with economics mink ranching, ranching in general. I relied on documents that were provided by the Jonssons, by the Griffeths, also a similar type case. Also documents that in general speak to the effect of mink ranching.

Q. Are these the types of materials that are normally relied upon by economists when trying to calculate damages?

A. Yes, they are.

Q. Okay. Did you rely on any other information in trying to answer the questions I asked you to look into?

A. Yes. I conducted interviews with the Jonssons, with the Griffeths. I did a field visit to the Jonssons ranch. I conducted an interview with the Jonssons' banker, also with Michael Patrick from Patrick Fur Farms. I also reviewed the depositions that were relating to the case.

Q. Is this also the type of information that is reasonably relied upon by economists doing what you're trying to do here?

A. Certainly.

Q. After considering the materials and information

that you just told us all about, were you able to answer the questions?

A. Yes, I was.

Q. Okay. Dr. Roberts, do you have an opinion to a reasonable degree of probability whether the Jonssons suffered any losses after feeding the lactation crumlets to their mink in 2010?

A. Yes, I do.

Q. What is your opinion?

A. That they did indeed suffer damage.

Q. What type of or types of damages, briefly?

A. Damage essentially to three type of mink, three category of mink.

Q. Three different categories of mink that they own?

A. Yes.

Q. Okay. Do you have an opinion to a reasonable degree of probability as to what the amount of damages is that the Jonssons suffered?

A. I do.

Q. Okay. And what is your opinion on that question?

A. That they suffered no less than $3,409,621.00.

Q. Could you describe how you arrived at the number you just provided?

A. Yes. I did an analysis in which I looked at the historic performance of the Jonssons' ranch with respect to

the production of their mink, with respect to the performance at market, meaning how -- the types of prices that they captured relative to the average industry performer. I incorporated growth rates, I generally did an overview of their performance prior to 2010 when the feeding of crumlets took place.

From that point I was able to statistically describe that information and then look at each year starting in 2010, and compare the outcome of those years to the historic performance. Using very high degrees of confidence, I was able to show that indeed in each year there were significant damages in one area or another for every year following the feeding of crumlets.

Q. Okay. Now, you testified earlier, if I understood you correctly, that the Jonssons suffered damages to three different categories of mink on their mink ranch; is that correct?

A. That is correct.

Q. Okay. What is the first category of mink that was damaged in this particular case?

A. Let's go with the kits, the babies that are produced.

Q. The baby mink?

A. Yes.

Q. Okay. What damages did the Jonssons suffer to

their kits in this case?

A. Generally, they suffered damage for the kits that died and for the kits that were expected to be born that weren't born.

Q. And how do you distinguish between those two categories between kits that died, kits that were expected to be born but that were not?

A. Well, okay, so a basic example for the kits that died, if you had a breeder population that produced 10 offspring, 10 kits, all of which died, and that death was abnormal from a statistical perspective, then I could value those -- those kits by taking them to market and looking at the prices that were captured in that specific year.

Q. So what you're talking about in terms of dead kit damages are kits for which we actually see bodies?

A. That is correct.

Q. And how would you calculate damages generally in that type -- for that category of kits?

A. Generally I would -- I would.

Q. Using the example that you gave of 10 offspring that all died?

A. So I would take the 10 offspring to market in that year, look at the prices that were captured, and multiply the quantity that were - that had died by the price, the appropriate prices, at market.

Q. So let's say for purposes of that hypothetical that the price that the Jonssons could expect to receive for a mink pelt was $50.00, what would the damages be in your example of 10 dead kits?

A. So 50 multiplied by 10 would be $500.00 in that example.

Q. $500.00. Now, the other sort of subcategory among kits that you referenced or kits that were expected to be born but were not; is that correct?

A. That is correct.

Q. Okay. Give me an example of how you would calculate damages generally to that subcategory of kits?

A. Okay. Sticking with the same line of logic, if we had a breeder population that was expected to produce ten kits but instead only produced five, and I am able to show that the production of five is statistically lower than a specific threshold, so I'm confident that that five is abnormal, then I am able to adjust the five that were produced to the ten that should have been produced based on their history, again take that quantity of five in this instance and value it at market in the appropriate year.

Q. So again, for purposes of this hypothetical if the average pelt price that the Jonssons could expect to receive was $50.00 a pelt, what would the damages be?

A. You just multiply the 50 by 5 which is $250.00.

Q. The five, again, being kits that were expected to be born but were not for whatever reason?

A. That is correct.

Q. Did you calculate or have the opportunity to calculate the Jonssons' actual damages in this case to kits that died and kits that were expected to be born but were not?

A. I did.

Q. Okay. And what are the Jonssons' damages in that category?

A. For this category it totals $1,298,665.00.

Q. And in what year or years did the Jonssons suffer those damages?

A. Starting in 2010 and every year beyond so '11, '12 and '13.

Q. How did you calculate the Jonssons' damages relating to this category of mink, the kits that died or those that were expected to be born but were not?

A. I followed the same logic. I was able to look at production from the past, I was able to say based on the Jonssons' mink ranch and the history of the ranching what typical performance was and I was able to describe that performance from a statistical perspective.

Q. How many years of data did you review for that purpose?

A. Back to 2003.

Q. So from 2003 to 2013?

A. Yes. But characteristically those time periods need to be distinguished, the 2003 until the 2010 feeding, because in economics, we consider the event that is being called the feeding of crumlets in 2010 we call that an exogenous shock.

And so in order to test whether or not the outcome beyond that exogenous shock was distinct, statistically I need to characterize the period of time prior to the 2010 feeding in an effort to understand it. So while I did look at that full range of years, it is important to, I think, point out that I described the 2003 to 2010 time period in an effort to understand what happens on the ranch prior to the feeding of crumlets.

Q. So you could compare it to what happened after the feeding?

A. That is correct.

Q. Let's just break this category down a little bit. How did you determine how many kits actually died that the Jonssons owned?

A. In the initial year?

Q. Yes?

A. This was something that the Jonssons actually experienced and saw with their own eyes.

Q. Okay. And how did you generally determine the number of kits that should have been born but were not?

A. Using just basic math and statistics, I'm able to show what is average. I am able to look at the full range of low to high, I am able to characterize a confidence interval and to say that with the certain degree of probability they would likely fall within a specific range.

Q. Again, looking at the seven or eight years of data that preceded 2010?

A. That is correct.

Q. How did you determine -- I think you said earlier that the basic formula for this category of damages is taking the number of dead animals or the number expected to be born, whichever the case, and multiplying it by the price one could expect to receive at market for a pelt; is that correct?

A. That is correct.

Q. How did you determine in this particular category of damages what price the Jonssons could expect to receive at market for a pelt in a given year?

A. I looked at their price performance in their history. So critically, this is something that needs to be understood in a relative fashion. I am able to go back and not only see how the Jonssons performed at market, but I am able to compare that to the entire industry and I'm able to

see where they are at as a ranch relative to the industry overall. And in so doing, prior to the feeding of crumlets, I was able to see that on average the Jonssons outperformed the market by .61 percent.

Q. When you say that the Jonssons historically outperformed the market, are you talking about the prices that the Jonssons obtained historically relative to the prices an average mink rancher in the industry obtained?

A. That is correct.

Q. Backing up just one second on something that you touched on earlier, why did you review 10 years worth of data in your analysis?

A. Because there was 10 years worth of data to look at. It is my opinion as a social scientist that if data exists in something like this, and if I were to ignore that or only look at the smaller subset of that, that would be irresponsible. I should consider the production and price performance throughout as much time period as I can capture the data.

Q. Now, you mentioned that this first category of damages relating to kits is just shy of 1.3 million dollars, correct?

A. That is correct.

Q. Okay. Can you walk through with me how you calculated or the methodology that you used to calculate

that number for one of the years you described?

A. Sure. Okay. So as an example, let's say in 2010 the Jonssons had 5,800 mahogany mink that they bred. So these are the breeders. They bred these 5,800. Given their historic performance, they typically produce 5.5 kits per breeder which if it was a traditional year, that would give them 31,900 kits.

Q. On just the mahoganies?

A. Yes.

Q. Okay.

A. Just as an example. So I'm picking just kind of one year's production for one type of mink.

Q. Okay.

A. They did not produce 31,900 they instead produced 25,366.

Q. What is that difference?

A. That is a shortfall of 6,534 mink. Now critically before I can consider that a loss, I have to test it empirically and I have to see whether or not the shortfall is statistically distinct from history. So, you know, if it was just a bad year that is one thing. If it is lower in performance than it has ever been, that is something entirely different.

Indeed, this was something that was lower than any historic performance. And so I can quantify the damage from

this specific example by taking those 6,534 mink to market that year and looking at a price of the average industry performer and adjusting it to .61 percent above that average industry participant which in this case would have put the prices for pelts at $77.42.

Q. Just so we're clear, that 77 and 42 -- $77.42 price is what the Jonssons could have expected to achieve that year based on the fact that they historically performed above average?

A. That is correct.

Q. Okay. Continue.

A. So in multiplying the $77.42 by 6,534 pelts, which were the shortfall in that year, that gives me a figure of $505,835.00.

Q. Did you employ that methodology in calculating the Jonssons' damages for this first category relating to kits for the years 2010, '11, '12 and '13?

A. Yes, the methodology of multiplying the quantity shortfall by the price at market, absolutely.

Q. Are you confident in your calculations of damages in this category?

A. Extremely confident.

Q. Why are you so confident?

A. Because my entire analysis took a conservative approach. I made use of 95 percent confidence intervals

throughout my analysis in an effort to be certain about any loss that may have occurred.

Q. What is a 95 percent confidence interval?

A. It is a way of understanding data. Let me give a little example. Say I know the history of their performance for their mahogany mink, and I know that they have performed, well in this case on average 5.5. I also know with 95 percent confidence that the range in which they should fall is between the 4.4 and 6.6. So any -- so if another data point were to occur, which is the question that is asked in this type of train of thought, then with 95 percent confidence, I can state that that data point would fall within that range. When it doesn't, when it falls outside of that range, then I consider as a scientist that point to be characteristically distinct.

Q. And can you restate that point without using the words data point? I mean when you're talking about a data point, what data point is at issue here?

A. So yeah when I refer to a data point I'm looking specifically at an occurrence of an event. So, for example, say in one year the Jonssons get a 5.5 kits per litter on their mahogany mink, that is the data point. So in looking at all of the years previous to the feeding of crumlets, I can characterize the entire performance and capture the 95 percent confidence intervals. Then I look at each

isolated instance after that. So I look at 2011 and '12 and '13 and see how it compares to that confidence interval.

Q. So with respect to this first category of damages relating to mink, to kits, what can you say with 95 percent confidence statistically?

A. I can say that in every year following feeding of crumlets they had a result that was statistically distinct from their past history.

Q. Would it have been acceptable in your field of expertise to use a lower confidence interval than 95 percent?

A. Oh, certainly.

Q. Why?

A. Well, 95 percent is very -- is a very aggressive conservative approach. It is certainly not required. I have used, as an example, I have done a lot of work, some social policy work, based on statistical analysis and economics in the country of Cambodia for landmines. And I was only able to capture 80 percent confidence intervals which is much less than 95 but still very acceptable. Policy following those findings has been implemented and is working quite well. And 95 percent confidence is near certain.

Q. If it is acceptable for you to have used a lower confidence interval, which I assume would have increased the

Jonssons' damages; is that correct?

A. That is correct.

Q. Why did you choose to employ a 95 percent confidence interval?

A. Well, ultimately I had to make a decision about how conservative to be within an analysis. And my personal approach is to be very conservative in an effort to present a bear minimum figure of loss.

Q. Did your damages calculation in this first category relating to kits extend beyond 2013?

A. No, they do not.

Q. Now, you testified earlier again the Jonssons suffered damages in three categories of their mink. What is the second category of mink you're talking about?

A. The mink whose price performance suffered following the feeding of crumlets in 2010.

Q. Can you sort of expand on that explanation? What do you mean by this particular category of damages?

A. Okay. So of the -- of the mink that were produced, it is important to consider not just quantity which was just described, but also quality which relates to the prices that they're able to capture for the pelts when they're taken to market.

Q. Of the mink that survived?

A. That is correct.

Q. Okay.

A. So I'm able to look at how the Jonssons performed in each of the years beyond the feeding of crumlets and compare that to their past history. And using it as a benchmark of the average industry performer. And I am able to -- I find that in 2011 and 2013 they actually performed below where they have ever performed in their history of ranching.

Q. Regarding the prices they obtained at the market?

A. That is correct.

Q. Did you calculate the Jonssons' damages to this second category of mink you have described?

A. Yes, I did.

Q. What is your number?

A. It totals $167,000 -- $167,997.00.

Q. How did you calculate the damages in this category as far as methodology?

A. Okay. What I did, again, I characterized the period of time prior to the feeding of crumlets with respect to their price performance at market. Then I looked at --

Q. What years did those include?

A. All the way back to 2003.

Q. Okay.

A. Then I was able to look at each isolated incident after, so the years '11, '12, and '13, and compare how they

performed relative to the average market participant and come up with a figure. And when that figure in 2011 and 2013 actually falls even beyond the 95 percent confidence interval, it is actually outside of the historic range of ever performing at market. So what I was able to do is look at what they did capture from those pelts and adjust it to .61 percent above the average industry performer and that adjustment gives me the number of damages.

Q. Is the simple way of saying it then that you took the difference between their historic average price per pelt, which is .61 percent above market average, and take the difference of that number and what they actually achieved at market in those years?

A. That is correct.

Q. How did the Jonssons' mink perform at market in the years 2011, '12 and '13, the years following the feeding of the crumlets?

A. Okay. So to give a frame of reference here, while I have already stated that they on average performed .61 percent above the average market participant, the low points experienced in 2011 and 2013 are actually lower than they have ever performed.

Q. How poorly did they perform in those years?

A. In 2011, they were 2.85 percent below the average industry performer. And in 2012 they were actually

2.34 percent above and then again in 2013 they were 1.83 percent below.

Q. Can you explain how the Jonssons could have performed well below their historical averages for the years 2011 and 2013 but outperformed the market average in the year in between 2012?

A. Yes, certainly. The Jonssons noticed the performance of their breeders and -- well let me back up even further. The Jonssons long ago made an effort to purchase very high quality improvement breeders in an effort to produce good mink, meaning large, and possessing the qualities that would capture a high price at market.

And since that time, they have actually implemented a strategy of growing from inside of their herd which is a typical strategy.

Q. What do you mean by growing inside of their herd?

A. Holding some of their best kits from each year over and making them the breeders for the next season.

Q. As opposed to doing what?

A. Buying them from other ranchers.

Q. Okay. So this process allowed them to each year select the best offspring and make them breeders. So this process over a lot of time ends up contributing to the very high quality and large mink, which is what they're after.

So when the feeding of crumlets in 2010 took place,

the performance immediately following that fell. And they keep their breeders one more season to see if they would produce again and seeing that they weren't producing where they had from their history, they made a decision to pelt out some of those best breeders, more than a thousand of their best breeders were pelted that year. And so --

Q. Ones that they normally would have kept?

A. Correct. So the implication of that is critical to understand because even though those breeders weren't producing with respect to quantity, they themselves were large and, you know, having been genetically selected for more than a decade, they were quite desirable. So when they were sold with all of the other pelts, it actually drove the average price up.

Q. So maybe I didn't understand your answer on this part. But why did the -- why did the Jonssons sell these breeders, these particular breeders you mentioned that you said they otherwise would have wanted to keep around because of their superior characteristics?

A. Because they weren't producing kits like they should have.

Q. But the reason why they fetched high prices at the market is because they themselves were still superior mink?

A. Yeah, they were the best ones. I mean so when

looking at the overall average price at market, the numbers actually above the average industry participant but it is because they pelted out the best breeders that they had.

Q. Going back to these three categories of mink that you say suffered losses in this case, what is the third category of mink?

A. Excuse me their breeder mink.

Q. And those are the mink, as I understand it, that they hold over year after year to produce kits; is that correct?

A. That is correct.

Q. Okay. What damages in this case relate to this third category of mink that you have identified as breeders?

A. There is three subcategories, if you will, that tell each specific story. The first were the breeders that died initially following the feeding of crumlets in 2010. The second category deals with mink that the Jonssons intended to use as breeders in an effort to continue expanding and growing their ranch operation but could not given the losses that occurred in 2010. And then the third category deals with the breeders that were purchased externally or outside of their own herd in an effort to replace the ones that died or were harvested.

Q. Well, okay, so for lack of a better word I'm going to use the word subcategory to describe those three

things that you just said. Let's talk about the Jonssons' damages that relate to this first subcategory within the breeder mink, okay? And I think you said that is the breeders that actually died?

A. That is correct.

Q. How many of the Jonssons' breeders actually died?

A. A total of 450.

Q. And when did they die?

A. In 2010 and '11. Mostly 2010.

Q. Did you calculate the Jonssons' damages relative to their breeder mink that actually died?

A. I did.

Q. And what is that figure?

A. It totals $197,540.00.

Q. How did you calculate that amount?

A. Well, I took the number, which is 450, and I multiplied it by a price of $500.00 per breeder, a price that would be required in order to replace an equal or like quality breeder. And when I multiplied those together, I get 225,000. From that point, I make consideration and accountability for the fact that they did get some value from them because they sold them at market as pelts. And so in looking at the value that they captured when selling at market, I subtract off $27,460.00 which gives me that figure I stated of $197,540.00.

Q. So did you -- did you account for then the value that they did receive for selling the breeders that died at market?

A. Yes, certainly.

Q. Okay. How did you determine the $500.00 breeder replacement cost that you described?

A. Well, it is not necessarily me determining it, it is an actual price quote from Patrick Fur Farms which is a place in Wisconsin that sells equal quality breeders.

Q. Okay. Now the second subcategory within this breeder category relates to, as you described it, breeders that the Jonssons wanted to keep to continue growth but could not?

A. That is correct.

Q. Is that correct?

A. Yes.

Q. What do you mean by that particular -- describe the subcategory for the jury?

A. Okay. So the story line with this that is critical to understand, the Jonssons had intention to continue growing their mink ranch operation as is evidenced by the fact that that is what they were doing. If you look at an 11-year period prior to the feeding of crumlets, they were averaging 7.9 percent growth per year which frankly is quite aggressive for a business operation.

Q. Eight percent growth rate relating to their breeders?

A. Seven, nearly 8, 7.9 percent meaning from one year to the next, they would hold over enough of their kits and make them breeders so that their breeder population grew by nearly eight percent --

Q. Okay.

A. -- from year to year. Now, the three-year period between 2006 and 2009, they actually restricted their growth rate in an effort to save up capital, again a very common strategy among business profit maximizers. Their intention was to save capital in an effort to build four new sheds that would house breeders. So looking again at expansion. And in 2010, they did indeed build these four new sheds.

Q. Before or after feeding the crumlets?

A. Before, I believe.

Q. Okay.

A. And these four sheds had a capacity of housing an additional 1,900 breeders. And this was their plan was to as soon as they could get those sheds built that, of course, they would fill them with breeders. That is the whole intention. They weren't able to, given the loss that was experienced in 2010, they weren't able to fill the mink sheds that they had.

Q. Let me stop you. When you say they were unable

to fill the mink sheds they had built, what does that mean?

A. They couldn't justify keeping, from those that were left, any more than they kept around 300.

Q. Rather than how many?

A. Rather than keeping 1,900.

Q. Okay.

A. They had to consider several things. At that point when loss was experienced, it was no longer just an issue of we want to fill our sheds, it was we need to consider the loss that we have experienced, we need to be able to pay back our banker, we need to be able to, you know, keep functioning as a business. And right now, it wasn't, given the loss that was experienced, it was no longer the most logical decision to hold over a full 1,900 as they otherwise would have. So they were 1,600 short of filling the sheds that they just barely built.

Q. Do you know what the Jonssons did with those 1,600 mink you say they wanted to keep but were not able to for financial reasons?

A. Yeah, they harvested them.

Q. So didn't the Jonssons then receive a benefit by selling those pelts at the market?

A. Well yes, they received a benefit and I subtracted that off of the figure. But it is critical to distinguish the value of a breeder as separate from the

value of a pelt. They are two markets entirely. A pelt captures a certain value when it is sold once at market. A breeder produces lots of offspring for several years. So the value of a breeder is much higher than the pelts sold from the mink.

Q. Why?

A. Because of its capacity for production.

Q. Now you mentioned earlier that there are two different ways a mink rancher who wants to grow their mink operation to do that by holding over kits internally and making them breeders for the following season, or purchasing new breeders from outside or external sources; is that correct?

A. That is correct.

Q. Okay. You also mentioned, I believe, that the Jonssons, to your knowledge, had always employed a strategy of growing from within; is that correct?

A. Not always. Long ago, prior to 2003, and I have been talking with Michael Patrick, the owner of Patrick Fur Farms, long ago they purchased high quality breeders in an effort to start from a strong stock. And from that point, then they implemented this internal growth strategy in an effort to continue to improve upon that stock they initially had.

Q. Have you been able to determine whether or not

the Jonssons purchased any outside breeders for the data that you -- that was made available to you prior to 2010?

A. No, they did not.

Q. Have you had the opportunity to calculate the Jonssons' damages relating to this second subcategory of breeder mink relating to their inability to grow their breeder herd as expected?

A. Yes, I did.

Q. What is that figure?

A. The total figure is $705,552.00.

Q. How did you calculate that number, Dr. Roberts?

A. Well, I used the same methodology for the last one, last category I described, which is I recognized there were 1,600 that otherwise would be breeders. I took that number, that figure, and multiplied it by again the $500.00 per breeder mink price that would be required to replace a like breeder from a 2013 price quote. Multiplying those two numbers together gives me $800,000.00. And then from that point, I subtracted off the amount of revenue that they could capture, did capture, when they brought them to market instead of keeping them as breeders which was $94,448.00. So subtracting the 94,448 from the 800,000 left me with a remaining 705,552.

Q. Okay. Thank you. What is the third subcategory of damages within the broader category of breeder mink?

A. The breeders that were purchased from external sources.

Q. And describe your basis for considering that a damages category?

A. Well, one of the most important things to consider from my perspective is that this is a behavior that was distinct from their past behavior. The fact that between 2003 and 2010 they're growing completely internally shows a strategy of improving the nucleus of herds that they have which is something that was taught over a few minutes of phone conversation with Michael Patrick. He said this is very strong strategy for mink ranchers to implement. It helps them to improve from year to year, and to get a stronger genetic nucleus of herd.

Now, in so doing, if they were to go out and buy some lower quality breeders and integrate them in the herd is probably not the wisest decision. They did go out and buy nearly 2,000, well a thousand nine hundred four in total.

Q. Well, before you get there, let me ask you why weren't the Jonssons able to continue their historic strategy of growing from within after feeding the crumlets in 2010?

A. Because following that initial shock, they lost several thousand mink. They had bank loans that were due. The quality of those that was -- that were produced was

lower. They were in a situation where everything changed. And from that point they had to do what was in their best interest from that point moving forward which was a different choice than they would have made without the loss.

Q. Where did the Jonssons purchase these outside mink you have referenced?

A. From three local small time ranchers.

Q. How did the replacement breeders they actually did purchase compare to the breeders they had lost?

A. Well, they were markedly inferior, smaller, less quality.

Q. Do you know why the Jonssons didn't go out and purchase replacement breeders that were comparable to the ones they lost?

A. Yeah, there is a couple of major reasons.

Q. Why?

A. The first reason is that the timing was extremely inconvenient. In 2010, they had just put up four new sheds which they saved for back since 2006 as is evidenced by the restriction in their growth rate. So they were capital short, they didn't have the savings to go pay at the time it was $250.00 a breeder, the price has gone up since. They didn't have the capital to do that. The other problem is a supply restriction. A place such as Patrick Fur Farms can't provide hundreds of mink on a day's notice. This is

something you need to give quite a bit of advanced notification on.

Q. How many breeders did the Jonssons purchase from outside sources, or have they purchased, following the 2010 feeding of the crumlets?

A. In total?

Q. Yes?

A. 1,904.

Q. Have you calculated the Jonssons' damages relative to the little over 1,900 outside mink they had to purchase following 2010?

A. Yes, I did.

Q. What is that figure?

A. It totals $1,142,400.00.

Q. In what year or years did the Jonssons suffer those damages?

A. 2011, '12 and '13.

Q. How did you calculate the number you just provided?

A. Excuse me, essentially I followed just three steps. I considered the number again that they purchased externally which is 1,904. I multiplied it by the price they paid which was about $100.00 per mink and which gives me $190,400.00.

Q. $100.00 a mink they paid for what?

A. Per breeder that they purchased externally.
Q. Of the inferior replacement mink?
A. Yes.
Q. Okay.
A. The ones that they would not have otherwise purchased.
Q. Okay.
A. So that gives me 190,400. And from there I also add what it would require to replace a breeder of equal quality to what they had prior to the feeding of crumlets in 2010 which again is the same price quote $500.00 in 2013. So multiplying 500 by 1,904 gives me $952,000.00. And then when I add those two figures together, I get the $1,142,400.00 figure.
Q. Why do you think that the Jonssons should be compensated for the inferior outside breeders they purchased?
A. Because this is something that they otherwise would not have done if production would have remained consistent where with it was.
Q. Why did you include in your damages calculation for this particular subcategory the cost of replacing the inferior breeders they did buy with what you're saying are comparable breeders at $500.00 a head?
A. Because in an effort to return someone to a

position where they would otherwise be, you would have to replace the quality of that product. And so if you didn't replace the breeders with a high quality breeder, then you would continue to experience production shortfall and quality mishap.

Q. Okay. Now, have we covered all of your primary damages calculations relating to the three categories of mink we have discussed?

A. I believe so.

Q. Okay.

A. Yeah.

Q. Did you make any additional adjustments to the numbers you have already provided to the jury?

A. Yeah, certainly.

Q. What adjustments did you include?

A. I considered costs and I also made adjustments for inflation.

Q. Okay. Well, let's take costs first. What costs did you consider in your analysis?

A. There is two types of costs that need to be considered. First, the costs that would have been experienced by the Jonssons if production was normal but were not experienced. And second --

Q. Costs they saved; is that right?

A. Or didn't experience, didn't encounter.

Q. Okay.

A. The second type would be the costs that they did incur because of a production shortfall that they otherwise would not have incurred.

Q. Well, let's take the first category of those costs first. What kind of costs would the Jonssons have normally incurred had production been normal post 2010 but actually did not?

A. Well, for all of the mink that would have been produced they would have had to pay to feed them, they would have vaccinated them, they would have been subject to commission fees when they harvested the mink.

Q. Did you calculate the costs the Jonssons would have incurred had production been normal?

A. Yes, I did.

Q. What is that figure?

A. It totals $378,442.00.

Q. How did you arrive at that calculation?

A. Well, given that this all took place in the past, I was able to look at what the actual costs were for raising mink on the Jonssons ranch during those years. So I was able to use the specific data, for example, you know, say 17 cents per pound for feed in 2010, but it was 20 cents in 2012. I was able to use the actual data of costs and apply it to the would be mink if they would have been produced.

Q. Now, is the category of costs that you have just described something that needs to be added or subtracted from your damages calculation?

A. These are costs they would have incurred if production were normal. So these are subtracted off of damage.

Q. Did you do that?

A. Yes, I did.

Q. Okay. Now the other costs that you described are costs that the Jonssons actually did incur but you're saying otherwise wouldn't had production been normal after 2010; is that correct?

A. That is correct.

Q. Okay. What kind of costs are you considering there?

A. There's -- the Jonssons administered 34,000 additional booster vaccinations to their mink and had to pay for the man-hours which took 420 man-hours at $10.00 an hour in order to administer those supplemental vaccinations. And they also incurred additional interest expense subsequent to the fact that their production was lower than it should have been.

Q. From their bank loan?

A. That is correct.

Q. Have you calculated those additional costs?

A. Yes, I did.

Q. What is that figure?

A. It totals $203,172.00.

Q. And how did you calculate that number?

A. Well, what I did is I looked at the actual costs incurred from the additional booster vaccinations and labor required to administer those. I also spoke with their bankers and were able to determine the additional amount of interest that they had to pay on their loans subsequent to the fact their production was lower than it otherwise would have been.

Q. Is this subcategory of costs something that you add or subtract to your damages calculation?

A. These are added.

Q. And did you add that into your calculation?

A. Yes, sir.

Q. Now, one other thing you mentioned, Dr. Roberts, is inflation. Just generally what is inflation?

A. Inflation is an adjustment we make to a monetary figure in an effort to restore the purchasing power to a certain year, for example.

Q. Why did you consider inflation in your damages calculation?

A. Because the damages that were calculated were considered within their respective year. And in order to

understand the purchasing power behind that figure, it is important to bring it forward into today's dollars, or I should say more precisely December of 2013 dollars.

Q. That is because?

A. That is when I ended my analysis.

Q. Okay. Did your inflationary adjustments increase or decrease your overall damages calculation?

A. Increase.

Q. By how much?

A. Totalled $72,737.00.

Q. Okay, Dr. Roberts, thank you. Now I just have a few more questions. Did you incorporate any guesswork or speculation into your damages calculation?

A. No. Everything that has been calculated here is from things that have already occurred, it is from data that is observable. It is from the facts that are before me.

Q. Are any of your damages calculations relating to damages that are in the future or that have not already occurred?

A. No, I only considered past loss.

Q. Now, in this case you provided an expert report sort of summarizing your opinions back in April of 2013; is that correct?

A. That is correct.

Q. Okay. Does your testimony today differ in any

way from the opinion you gave in that report?

A. Yes, it does.

Q. In what ways?

A. There were three major changes that I made to the report that I submitted in April. The first change had to do with a sample size adjustment. More specifically, when the report was due in April of 2013, the Jonssons had only sold 18 percent of their lot at market. So it wasn't done yet. So the figure that was provided was contingent on the idea that the 18 percent was reflective of the full lot.

After the sales had concluded, I went back in to verify that it was indeed accurate and I found that the prices were not the same throughout the duration of market and I made an adjustment downward which subtracted off damages for the Jonssons.

Q. What is the second main way in which your testimony today differs from your report?

A. The second adjustment deals with live sale of breeder mink. The --

Q. What do you mean by that?

A. Well, information came to light after the -- after the report was submitted in April about, excuse me, live sale of breeders which was critical to understand and integrate throughout the report.

Q. Well, before you continue, what do you mean by

the live sale of breeders?

A. So the Jonssons sold some of their kits to outside sources in order to provide them a breeder stock.

Q. So you're talking about rather than selling certain mink as pelts at market, they're selling live animals to other ranchers?

A. Correct.

Q. Okay. And how did that, the addition of that information, affect your testimony?

A. Well, it ended up changing the kits per litter averages, it ended up actually echoing throughout the whole report. And in the net, it ended up subtracting again off of the damage figure that was initially cited.

Q. What is the third way in which your testimony today differs from your report from April of last year?

A. I simply adjusted the inflation from the time period of April in order to account for the months that had transpired through December of last year.

Q. What was the net effect of these three adjustments you just described to your overall damages calculation between the report and today's testimony?

A. It ended up reducing the damage figure by $540,547.00.

Q. Resulting in the figure you provided at the very beginning of today, the 3.4 million dollars?

A. That is correct.

Q. May I use your board?

MR. MINNOCK: Of course. Of course. That is not mine. Do you want the chart or that? That is not even mine so you can use whatever you want.

Q. (By Mr. Mercer) Dr. Roberts, can I indulge you for one minute to come down to this white board and summarize your calculation of damages for the categories you have discussed today?

A. Okay.

Q. Come on down.

MR. MINNOCK: I want to leave that up here but leave half where we can do a little work ourself. Go ahead.

THE WITNESS: I will do my best.

MR. MINNOCK: All right.

THE WITNESS: Sorry, it is over.

MR. MINNOCK: You do what you have got to do and we'll figure something out. We'll figure something out.

Q. (By Mr. Mercer) Go ahead and go back. Dr. Roberts, just one more question. Is this a true and accurate summary of your expert opinion of the Jonssons' damages suffered in this case?

A. It is.

MR. MERCER: Thank you very much. No further questions.

THE COURT: Counselor, I'm going to give these folks another break. 10 minutes. Remember what I told you. We'll be in recess for 10 minutes.

THE CLERK: Please stand for the jury.

(Whereupon, the jury left the courtroom.)

MR. MINNOCK: Your Honor, before you go, Your Honor, let me just -- did you update your charts when you made these three changes?

THE WITNESS: Which charts?

MR. MINNOCK: The one on Page 13 and the one that showed the sales.

THE WITNESS: Page 13 of my April report.

MR. MINNOCK: Yeah, did you update that chart?

THE WITNESS: Throughout my report, yes, not actually on the report.

MR. MINNOCK: Okay. Never mind then. Thank you, Your Honor. We'll do it another way.

(Recess was taken from 3:54 p.m. to 4:05 p.m.)

THE COURT: Everybody is here and --

MR. MINNOCK: Yes.

THE COURT: -- why don't you bring in your jury.

THE CLERK: Please stand for the jury.

(Whereupon, the jury returned to the courtroom.)

THE COURT: Thanks, folks, sit down and relax. Counselor, you may proceed.

MR. MINNOCK: Thank you.

CROSS-EXAMINATION

BY MR. MINNOCK:

Q. Good afternoon, Mr. Roberts.

A. Good afternoon.

Q. Okay. I have some questions for you. The first thing I want to do is understand your role in this case. You talked earlier about causation and the eating of the lactation crumlets was the cause of these damages. Let me make sure I understand what you're actually saying. You're not testifying that there was anything wrong with the mink feed, right?

A. Is that a question?

Q. Yeah.

A. Um, I first would say in correcting I didn't use the term causation, and to your specific question, no, I am not talking anything about the biologic makeup.

Q. Let me ask it more specifically. I think you did use the word causation, and I think this was something you and I talked about in your deposition. You used the word correlation, correct?

A. That is correct.

Q. Okay. Whether or not there was a causal link between the lactation crumlets and any other of the mink deaths, you leave to someone else?

A. Yes. That link genetically I cannot provide.

Q. Okay. And so if a previous expert in this case --

THE COURT: No, skip if. Put your questions to him.

Q. (By Mr. Minnock) All right. So now let's talk then about each one of these categories and I want to make sure that I understand them better.

The first one that you have got up here is entitled kits, right? And what you -- in your report, that is referring to the section on pelts not taken to market, right.

A. Kits specifically have reference to the offspring from the breeders.

Q. That either died or were never born?

A. That is correct.

Q. Okay. And the way that you determined whether or not there was a loss was you used what you defined as a 95 percent confidence interval?

A. That is correct.

Q. And the way you do a 95 percent confidence interval is you, and you're welcome to come down and take a look at this, but what I did is I charted the dark mink using the figures that you put together and just put them on a chart, and what you do is you establish a lower confidence interval and an upper confidence interval, right?

A. The 95 percent confidence, yes, that is what it does.

Q. Right. And so the bottom of the 95 percent confidence interval for blacks was 2.8?

A. That is correct.

Q. And the high was 4.3, as I recall?

A. Yes, that is correct.

Q. Okay. And so what you do then is you look at the production and you say if something falls between 2.8 and 4.3, then that is consistent with what historically has occurred on the ranch, right?

A. Yes.

Q. Okay. And so if you find something between those two, you don't -- you can't conclude that there has been a loss because it falls within that range?

A. That is the idea, yes.

Q. All right. And if something falls outside of the range, you use the term exogenous shock?

A. Okay.

Q. Which means that there is something going on that is causing them not to be within the range that you would expect them to be?

A. That is correct.

Q. Okay. Now, let's talk specifically about then the black mink. And I know you have made some changes to

this chart and we'll update this as we go along, but you didn't make any changes with respect to the black mink; is that right?

A. That is not correct.

Q. Okay. So we're looking at chart R-3. Did you make changes to R-3 for black mink?

A. Is information changed there, yes, it is.

Q. What information changed?

A. Um, specifically with regards to black mink in 2013 after the 18 percent sample was realized as a full set, then I was able to see that the actual black accomplishment with respect to kits per litter was 2.66 which is below the lower bound of the threshold.

Q. So you originally determined that in 2013 that there was no loss, but now you're saying based on the full data you have concluded that there was a small loss?

A. For the blacks we found that the 2013 figure for the full set that was sold did bump the blacks beyond the 95 percent threshold which indicates a loss. However, there was also implications on the price side which in the net the change from the 18 percent to the full set ended up subtracting like $170,000.00 off of the figure.

Q. Okay. So let me make sure I understand what you're saying. On the kit section, the damages may have arisen, but on the price it would have gone down so

therefore the net was that there was no actual loss with respect to blacks?

A. That is a completely different framework than I'm using so I don't know that I'm comfortable answering it.

Q. All right. Well, let's go back and look at what we know historically. You got this data from the Jonssons and from their banker, right?

A. Actually, primarily it is critical to rely on the information from the market. So when they actually sell, there is a published record that I can access that shows me, you know, the precise number that are sold, of which type and so forth. And I did acquire information from the Jonssons and from the bankers and so forth. However, the numbers that I opted to go with in a conservative effort and also believing them to be the most accurate, were the numbers that were reflected when things were sold at market.

Q. Okay. So the most accurate numbers in your mind show that the Jonssons based on the 2010 crop that ate lactation crumlets produced 3.72 kits per litter?

A. That is correct.

Q. And so you concluded two things from that. One, that it was their best year in five years or since 2007?

A. I -- well you can say it that way, I don't feel comfortable making that assertation, however.

Q. It was the highest kits per litter among blacks

in five years?

A. It was barely above average relative to their performance back to 2004, but yes, it was above average.

Q. Okay. And, in fact, it fell within the 95 percent confidence interval?

A. That is true.

Q. In fact, it fell just slightly above average?

A. Yes.

Q. Okay. So based on your conclusions, they did not suffer any -- any loss in terms of actual mink not being born during the year 2010?

A. With respect to black mink?

Q. Yes?

A. That is true.

Q. Okay. Now, let's talk then about mahogany mink. And this was one of the areas where you did make a change; is that right?

A. That is true.

Q. And the change that you made is that in 2011 you originally concluded that there were -- that they had sold only 21,016 mink, right?

A. That is correct.

Q. And then you discovered that they had some live sales?

A. That is true.

Q. Now, when you were talking with Mr. Hancey, how many lives sales did you incorporate into that?

A. Let's see I believe in -- let me double check. There were 5,520 sold in 2011.

Q. Okay. And so that is what -- and what does that raise the kits per litter to?

A. Well, 5,520 plus 21,016.

Q. No, no, I meant what is the instead of?

A. Kits per litter.

Q. Kits per litter, yeah.

A. It moves it from a 3.42 to a 4.37.

Q. Okay. And the 95 percent confidence interval that we're talking about is, for that, actually it is different than these numbers for black, it is 4.4 to 6.6?

A. That is accurate, yes.

Q. Okay. So based on the 5,500 you added, it put the amount .03 below the 95 percent confidence level?

A. It put it outside of the range, yes.

Q. All right. Now, in this case we have had testimony that in fact -- well, and let me show you this so you can do this yourself, that there was, as a total, 36,520 minks sold in the year 2011, okay. And Mr. Jonsson and his son testified that all but 100 of the live sales were mahoganies, okay?

A. Okay.

Q. So in other words, there were actually live sales in 2010 of 7,638, okay?

A. Okay.

Q. So if you add those 2000 into your number of kits and recalculate the kits per litter, what do you come up with?

A. I'm confused with your methodology.

Q. You have added in -- you assumed that there were 5,500 live sales, right?

A. Okay.

Q. I am telling you that the Jonssons told the jury on Monday there were in fact 7,638 live sales?

A. Unless there is a missing receipt somewhere I -- I saw with my own eyes the receipt for 5,520.

Q. Well, let's assume that they're correct and there were 7,638 mahogany live sales. What does that do to the kit average per litter?

A. I would have to calculate it precisely, but it would increase it.

Q. And it would increase it such that there was in fact no -- it would be within the 95 percent confidence interval?

A. That I would have to check with the actual numbers.

Q. Well, let's go ahead and do it. I can tell you I

calculated it and it was 4.74 kits per litter, but you go ahead and do it yourself.

THE COURT: You're not the witness, counselor, so let him testify.

MR. MINNOCK: Well, I'm just wondering --

THE COURT: You're not the witness, counselor, put your next question.

THE WITNESS: I don't have a calculator in front of me but I --

Q. (By Mr. Minnock) Okay. But the way that we calculate that -- here is a calculator. So I want you to assume then that there were 7,638 live minks sold?

A. Mahoganies?

Q. Mahogany live sales?

A. Okay.

Q. So you would add that to your 21,016, right?

A. Okay, state the number again, seven thousand --

Q. 638 live sales?

MR. HANCEY: Your Honor, I am going to object. It calls for speculation.

THE COURT: Well, I don't understand your question.

MR. MINNOCK: My question is this --

THE COURT: I don't understand your objection.

MR. MINNOCK: What is that?

THE COURT: The objection was stated, restate your

objection.

MR. HANCEY: He had the objection.

THE COURT: Yes.

MR. MINNOCK: You mean my question?

THE COURT: I'm waiting. He wants you to restate the objection.

MR. HANCEY: It calls for speculation because Dr. Roberts has already testified that he saw the documents that form the basis for his opinion. He is being asked to speculate on something he hasn't seen.

THE COURT: Well, he is asking him to assume a different number, and the end product of that number. He can assume the number and he can give the calculations. There is nothing wrong with that.

MR. MINNOCK: What would the calculation be?

THE COURT: The number may or may not be correct, but he can assume the number.

Q. (By Mr. Minnock) Assuming what I told you is correct, what is the number?

A. When I add those two figures together and I divide by 5,800 I get 4.9403.

Q. So that would be well within the 95 percent confidence interval?

A. That would be.

Q. And so if those numbers were true, then that

would reflect no loss among the mahoganies in 2010?

A. That would be statistically distinguished. The critical point I feel that needs to be brought out here though is that in my analysis I suffered from a serious shortfall in the sense that unfortunately the Jonssons didn't keep separate records. So what I am having to do here is I am having to observe the mink that consumed crumlets in the same pool with the mink that did not consume crumlets as an end product. I can't separate the two effects out.

I know from a related case how things look when I can see them separately. But because of the limitation in this case, what I have done is I have opted to look for a loss only when the collective pool can still be below the 95 percent threshold. So to state there is no loss I think is inaccurate. I think it needs to be stated more in terms of in a collective pool then the number would be at a 4.94.

Q. Okay. And so the herd, mahogany herd as a whole fell within the 95 percent confidence interval?

A. That is not what I'm saying. I'm saying a 4.94 would, yes.

Q. Yes, if the numbers I gave you were correct. Well let's talk about that. The only group we know that ate the lactation crumlets that you were able to differentiate was the black mink, right?

A. State that again.

Q. Well, the mahoganies were split between Cedar Valley and Lehi, right?

A. Okay.

Q. Right? I mean that is what you understand?

A. Sure.

Q. And the blacks were all at Lehi, right?

A. Okay.

Q. So the only ones we know on the -- that were on the Lehi ranch and ate the crumlets are the blacks, right?

A. Yes.

Q. And your findings were that their kit average went up after this?

A. Not necessarily that they went up, but I am -- I am looking at the performance relative to past performance. To make a statement about trend of up or down gets quite tricky and misleading.

Q. Okay. But the point is, is that they had their best year in five years, the only ones that we know ate the lactation crumlets?

A. Well, to my knowledge most ranchers experienced a very favorable year subsequent to weather and other things that year. So really it is everything needs to be considered together.

Q. Right. And everything is considered together

when you look at it over time and create a 95 percent confidence interval. That is the whole point, right?

A. Yes.

Q. Okay. Now, let's go back to that because I do want to ask you about that. You said that if something falls below that lower level of the 95 percent confidence interval that some exogenous shock has occurred, right?

A. Yes.

Q. If your 95 percent confidence interval is correct with respect to black mink, there was an exogenous shock in both 2009 and 2010, true?

A. That theoretically doesn't pan out. I see where you're trying to go with that. You can't compare a result prior to the exogenous shock taking place. It is from the selective pool prior to the event occurring.

Q. No, my question is did you determine what the exogenous shock was in 2009 that caused them to fall below the 95 percent confidence interval?

A. That is actually inaccurate to state. That data point needs to be where it is at in order for the 95 percent confidence interval to be created. That is part of this sub -- that is part of the set of data that was observed initially as the normal conditions for the Jonsson ranch. To go inside of it and say well, I noticed that inside of the set there is a low number is just really a misleading

way of trying to look at data. Of course there is a low number, that is the point. I'm looking at all of the performance prior. To simply say one year is low, that is noted. That has gone into the calculation of where the confidence interval is. If that data point changed, everything would change.

Q. Let's go then to 2012 with respect to the mahogany. And in 2012, did you assume any live sales?

A. I am not certain. Are you pointing with the lower chart or are you --

Q. No, no I haven't put it up yet. Did you assume any live sales in 2012?

A. Yes.

Q. How many live sales did you assume in 2012?

A. I have record of 850 mahogany and 240 black.

Q. Okay. If the Jonssons testified that there were 2,906 mahogany live sales, what would that do to the mahogany mink kits per litter?

A. Again, I have data that shows it was 850. So if we're going off on an conjecture of maybe, I can certainly calculate numbers, but I am not confident as a scientist in relying on anything that I haven't seen.

Q. Okay. Well, you have seen the fact that they had 3,000 -- or in 2011 -- or '12 they sold 34,327 mink and you have only on this chart accounted for 31,421. So there is

3,000 that are on this document that aren't on your document, right?

A. There is going to be discrepancies between all of the numbers that the Jonssons post there and the numbers and figures that I am using. That is -- that is to be expected.

Q. Okay. Well, I want you to assume that they testified that there were 2,906 mahogany live sales and what does that do to the number?

A. Real quick -- sorry, do you have a pen? It is more complicated than that because there is the distinction in the number of breeders they had. So it is not just simply adding things up.

Q. Yeah, I understand.

A. It puts it at 4.38.

Q. 4.38?

A. That is correct.

Q. Adding 2,906 only goes from 4.22 to --

A. I have to add in the -- let's see, 22,082, which is the combination of those two figures, and subtract out the 1,106 that they held over to increase their breeding herd, so that gives me 20,976.

Q. Right. So you take 5,791 subtract out 4,781, right? Why don't you give us the formula so we know what your formula is. How did you do that?

A. Okay. Look at the distinction between the number

of breeders they have in one year and hold over. Because if you have -- if you're growing internally and here it gets more complicated because they are also purchasing some externally, but essentially the production for one year is not just the number that they bring to market, but you also have to see if there is -- if they kept any from that stock in order to increase their breeding herd which here you can see that they do. They go from 4,781 to 5,887. So they increase it by over 1,100 breeders. So those are also considered as part of the production. Noting that 96 of those were purchased in that year.

Q. All right. So what that shows us is if that goes for 4.37 then we're .3 under the 95 percent confidence level?

A. Um --

Q. If that number is correct?

A. With 95 percent confidence, which again is a very conservative effort. I think with the way this is headed, I think it is safe to point out that, you know, if how confident do you want to be about an event? And if you're trying to barely cross the 95 percent threshold in an effort to show there wasn't loss, I think that is a very tricky way of pointing out information.

Q. I'm not trying to do anything, I'm just asking you questions.

A. Okay.

Q. Let's go to the next category which is the mink with the price production reduced, okay? So this is the -- this is what we're looking at when they actually take the mink to the market, right, and what happens is what you're comparing is how the market looks as a whole versus how they did. And you compare that and historically you found that they were .61 percent above the market?

A. Above the average market participant, yes.

Q. Okay. Now, in doing that, you simply took the aggregate comparison involving the typical number of mink. You did not break it down by grades, sex, size, things of that nature?

A. Boy that would get incredibly cumbersome.

Q. I understand. I just want to make sure that that wasn't something that you did.

Now, one of the things that you talked about the Jonssons doing is actually selling some of these live sales, these breeder mink; right?

A. Yes.

Q. And in considering how they did vis-à-vis the market, if they hold back a certain amount of their commodity and sell it in another market, don't you have to consider that?

A. If they also sold -- consider it with respect to

what, production?

Q. Let me show it to you demonstratively. I'm going to write on the back of this thing. Let's assume that I got 100 products, okay? And over here I sell 90 of them at one market for $50.00 and I sell 10 of them for $200.00 at a different market. To determine how well that this particular product performed for the year, I would need to combine those, right?

A. I am a little bit confused with what you're doing. Are you saying you are selling pelts or are you selling live breeders or what is going on?

Q. Let's assume they are breeders?

A. Okay.

Q. Let's assume they're pelts?

A. Which one?

Q. They're mink.

A. Well, it matters which one. So I can do it either way, just let me know what you want to do.

Q. Well okay, let's assume this. Let's assume that instead of pelting out the best mink in their herd they decide to sell them as breeders. Did you take that into account at all in your analysis?

A. Sell the nonperforming ones out?

Q. Well, whether they're nonperforming or not I guess is the question, right?

A. Well, I used testimony from the Jonssons in interviewing them that the reason they pelted them out was because they were not performing. If they were to somehow sell those that would be quite misleading. Their testimony was that they pelted them. So that is what I used.

Q. But they also sold some live and you would assume those live ones were not defective as you called them?

A. Otherwise they would have a pretty poor name as a reputation.

Q. Right?

A. If you are selling breeders that don't produce.

Q. But those breeders that they sold live, had they pelted them, would have, as you indicated for 2011, been the higher quality pelts at market, right?

A. The ones that they sold that were the highest quality.

Q. Yeah?

A. Ask it again.

Q. We're confused. Let me go back and make sure we understand each other.

You told us that the reason that the Jonssons were so high in 2011 is because they took a bunch of mahogany breeders and they pelted them out. And the reason that they were -- that because they pelted those out they were higher in the market. Do you remember that testimony?

A. I do.

Q. In 2010, instead of sending those and pelting them out, they sold them live, right?

A. 2012?

Q. 2010? We talked about the 7,000 sales, you had 5,500, I had 7,000?

A. Again, I mean that goes back to the your -- you giving me a number that I am not comfortable using but --

Q. Your number was 5,500, right?

A. That is correct. 5,520, I believe.

Q. 5,520. Those 5,520 that were sold live would have driven up their price at market, right? Because they were above average mink, right?

A. When you sell a live breeder you're giving it to someone to use for their breeding population you're not pelting it out.

Q. I am aware of that. But what I'm saying is let's assume that they had not sold any of those mahoganies live, okay? I want you to assume they didn't sell any to the Griffeths, any to anybody, they sent them to market instead. You told us those would be the prime mink because they are the big ones, right? And that is what happened in 2011, or I'm sorry '12, that caused them to be above the market?

A. My testimony with respect to 2012 was testimony that I did not count damages with respect to price

performance at market for specific reasons. So damages were not calculated for that year, they were discounted entirely. Even though I have good reason to understand why it was higher, I am not able to separate out the specific mink that were sold off as the best breeders versus the typical pelts.

If I could distinguish that effect, I would be able to see, as I can in a like case, in the Griffeth case, I would be able to see the precise impact from the mink that ate the crumlets, for example, and to see, as is the case in the Griffeths, that it was only those mink that were impacted.

Q. Okay. Let's talk then about the breeders. I want to talk about the breeders. On the breeders, as I understand what you just told me, is that Jonssons would not sell to their friends substandard breeders, right?

A. I indicated that if they were to sell non-performing mink to those that they know in the mink circles, those that are breeding, it wouldn't be the wisest thing for them to do.

Q. And, in fact, the only testimony that you have about how good those breeders are comes from Kent Griffeths who bought 400 of them, and his average the next year was 5.92, right?

A. I can't make a statement about that.

Q. You didn't read his deposition?

A. No, you're asking me about information that is --

that is separate. If you're --

Q. You say --

A. You said the only statement I can make about the quality of the mink. I can make lots of statements about the quality of the mink simply from the fact that they have gone a decade growing internally and selecting with very meticulous behavior which of the offspring is largest and likely to produce the best with the best pelts. So, you know, the idea that they sold their best breeders for nonperformance there is a lot of indication that they were of high quality.

Q. Well, no, that is my point. The 5,500 that you're accounting for and a different number that I have, you're assuming those are quality mink, right?

A. The 5,500 that they sold?

Q. Yeah, the live sales? The live sale breeders, you're assuming those are quality mink.

A. Again, you're mixing two situations. I talked about the sale when they brought breeders to market.

Q. And I'm sorry you are right in terms of I think you and I are not tracking and let me make sure I understand what we're talking about.

A. Okay.

Q. When I say quality mink, what I mean is quality breeders?

A. Okay.

Q. In other words, when the Jonssons sold mink to Kent Griffeths, they expected those mink to perform well, right?

A. I would think so.

Q. Okay. So they would -- they're not selling those to the Griffeths in order to be sub-standard mink, right?

A. I would guess that they wouldn't.

Q. Okay. And so if that is the case, then if they wanted to increase their herd in 2011, because you indicated that the normal growth of their herd internally would be to add 1,600 mink, right?

A. I indicated that their normal growth rate was 7.9 percent. And in 2010, there was a specific event that needs to be considered, specifically the building of four new sheds that would house 1,900 breeders.

Q. Right.

A. That wasn't typical.

Q. No, I understand that. But you're saying they needed 1,600 mink? 1,600 new breeders?

A. They could have housed 1,600 more breeders, yes.

Q. Let me put -- not to put too fine a point on it, you're asking my client to pay for 1,600 new mink at $500.00 each, right?

A. Yes.

Q. Okay. When, in fact, they sold over 5,000 mahogany mink as live breeders for $100.00 each, right?

A. They sold breeders, yes.

Q. Well, here is my point. What you're telling me -- your analysis goes something like this. They sold 1,600 live mink to Kent Griffeths and others at a total of $100.00, it actually more than that according to Mr. Jonsson, and that I should pay $500.00 each to buy them back?

A. First of all, the 1,600 figure is being confused. The 1,600 is a shortfall of what they could have filled in their sheds and weren't able to given the massive death that occurred.

Q. Right. But if they wanted to replace those, they had them on stock, they just shouldn't have sold them?

A. No, they kept everything that they arguably could keep. They were not able to grow the way they had expected. They had saved capital for three years.

Q. Wait, let me make sure --

A. They had built four new sheds. They had the capacity to house 1,900 more and they weren't able to. What I need to do in my position as a scientist is I look at the evidence to say is there sufficient evidence to warrant the idea that there was capital savings going on. That there was indeed a building of sheds. It would be different if

they said we had planned on building sheds but they didn't. But they had the new sheds, I saw the growth rate distinction.

There is a lot of evidence to suggest that they would have indeed kept 1,900 more breeders. Trying to confuse an argument about them selling at the same time as them suffering and there were so many things going on. They had neighboring ranches also suffering following the feeding of crumlets in 2010. People reached out saying I can't make my loans, I'm struggling here, can you help me out. Breeders were exchanged. There was a lot of things going on. But so to simply report it as one simple story I think is very mislead.

Q. No, no you're not misunderstanding. You're misunderstanding what I'm asking you. I'm asking you did they have 1,600 breeders on their farm that they could have kept instead of selling?

A. They were not able to justify keeping 1,600 for several reasons. They always keep the best they have. That is the reason why they grow it at nearly eight percent rate. If they could justify keeping more they probably would have grown at a faster rate. The other problem you have to consider is it is not just an issue of filling the sheds. They also have to consider the accomplishment of sufficient revenue at market in order to stay current with their

bankers and not go under. Their decision at the point of 2010 moving forward was the best rational decision that a businessman could make given the particulars of the circumstances they experienced.

Q. Okay. All right. Let me ask you a little bit about these costs added. The cost added figure, as you indicated, is if they don't make 4.0 -- one of them is the interest rate, right? That if they don't make 4.0 or I'm sorry 4.5 on their average kits, then they have to pay a penalty, right?

A. That is -- that is an interesting way of looking at it. Essentially what happens is the following. They take out, they borrow money from the bank with the expectation that they're going to produce at normal rates. Okay. If they do produce at normal rates, they're able to satisfy the demands of the contract, of the loan they have with the businessmen. If they're not, then what ends up happening is they're not able to pay everything in the way that they otherwise would, and the outstanding balance now incurs additional interest.

Q. Okay. And so for them, based on what the bank determined, they had -- they did not meet that interest threshold in any year other than 2004 and 2006, right?

A. That is not interest threshold, it is a total revenue capture. It is the amount of money they can make at

market given the number of mink that are born and survive that they can take and, you know, I could have also considered the prices but I didn't. I just kept it to the number.

Q. Threshold is 4.5?

A. 4.5 is the aggregated weighted average between the two.

Q. Which they only met in two years in the ten years you have data? Well, actually I should say the two years of the seven years before these events, right?

A. I need to go look real quick. Okay. So when we have a range, the critical thing to consider is if you point out that some data points inside of a threshold are below --

Q. Here is my --

A. -- let me finish, are below median, that is misleading to say that they only accomplished it in X number of years. The fact of the matter is that any time that they're below something that is statistically distinguishable, then we're able to say okay now let's consider how much bearing would that have had on additional interest. And we all experience this when we live our lives.

Q. So let me put it in your terms. They would have had additional interest in 2005 because they didn't have 4.5 aggregate threshold?

A. In a very rudimentary way of stating it, yes.
Q. 4.03 in 2007?
A. 4.03? Where are you, I'm sorry.
Q. I'm looking up at the top of this -- of your chart and I'm looking at what the bank determined that their average --
A. You're stating in 2007?
Q. Yeah, 4.03?
A. That is true.
Q. 3.87 the next year?
A. Yeah, I mean 5.28 in 2004, I mean --
Q. Right the two years they made it over those seven years?
A. It is an average.
Q. Okay. So --
A. Variance in an average.
Q. The variance in an average, right, absolutely a variance in an average. Could be above, could be below in any given year.
A. And the point is to say it is one specific data point after the exogenous event statistically distinguishable. Not to say oh, well, let's go ahead and look back at the data prior and notice if there is any numbers below an average. Of course there is numbers below an average. It is not prior to 2010 that is being

considered.

Q. By you at least?

A. I'm not calculating damage from 2010 and prior. I am looking at following the feeding of crumlets. I was tasked with the assignment of determining whether damages had occurred following the feeding of crumlets in 2010. And I was able to find very concretely that in every year starting in 2010 that there was a statistically discernible effect in either the number produced or the quality of pelts brought to market or both. In my mind as a social scientist that is a dead ringer. Finding something that is that strongly pointing towards damage suggests a very discernible exogenous event.

Q. Well, hold it. Before we talk about that, let's make sure we understand exactly what you're saying. With respect to the blacks and you read the Jonssons' depositions, right?

A. I did.

Q. You did. And you read where they said that in mahoganies they suffered no loss, you read that?

A. This is again something that --

Q. Did you read that? Did you read that?

A. I did read that.

Q. Okay.

A. But there needs to be an important caveat added

to that. The numbers that the Jonssons point to are numbers when the breeders initially give birth. These are numbers that are first -- first available. Given that they have got tens of thousands they don't go back, unfortunately, I wish they did, and count again after the first month of mortality and make those distinctions. So to say that their numbers are going to be in their testimony or in their depositions different than what I have, I have to go off of what I know. And what I know is what they brought to market.

Q. Right. And what you know is that with respect to the black mink -- the black mink that they said that they suffered a loss in, you didn't find a loss?

A. That is not true. There were 450 breeders that died in that initial year that were counted.

Q. Were they counted? Who told you they were counted?

A. I was told by the Jonssons that they saw them.

Q. They were not reflected in any records that you saw, that is solely based on their testimony?

A. Well, what record would it be?

Q. I'm asking you the question, were there any records supporting that?

A. I did not go off anything but the testimony which is a viable -- okay let me be a little --

Q. I have got to ask a quick one final question.

(Whereupon, the court reporter stopped the witness and attorney from talking on top of each other.)

THE COURT: Don't overlap, counselor.

MR. MINNOCK: Well, I'm trying --

THE COURT: I have talked about how Laura is very nice and very careful.

MR. MINNOCK: I am aware.

THE COURT: And very conscientious if you only --

MR. MINNOCK: I --

THE COURT: Her record isn't worth a darn.

MR. MINNOCK: I think I'm actually done.

THE COURT: Rise up.

MR. MINNOCK: We have been over this. I got it. I think I understand what you're saying.

THE WITNESS: Can I finish answering the question?

MR. MINNOCK: Well, which question do you want to answer?

THE COURT: Well, I don't want him asking questions. You put your questions. You're through.

MR. MINNOCK: I thought he said he wanted to answer a question?

THE COURT: Are you through? Are you through?

MR. MINNOCK: Yes. Yes, I have turned this off.

THE COURT: Okay. Let's send you home a little early, folks. Let's go home. 9:30 we'll start tomorrow, but 20

minutes after 9 report in. We're moving. So we're getting there. Take heart.

THE CLERK: Please stand for the jury.

(Whereupon, the jury left the courtroom.)

THE COURT: 9:30. Thanks a lot.

(Whereupon, court adjourned for the day at 4:51 p.m. The trial will resume on Thursday, January 16, 2014 at 9:30 a.m.)

STATE OF UTAH)
)ss
COUNTY OF SALT LAKE)

I, Laura W. Robinson, Certified Shorthand Reporter, Registered Professional Reporter and Notary Public within and for the County of Salt Lake, State of Utah, do hereby certify:

That the foregoing proceedings were taken before me at the time and place set forth herein and were taken down by me in shorthand and thereafter transcribed into typewriting under my direction and supervision;

That the foregoing pages contain a true and correct transcription of my said shorthand notes so taken.

In witness whereof I have subscribed my name and affixed my seal this 24th day of February, 2014.

_____

Laura W. Robinson

RPR, FCRR, CSR, CP